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The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

FOR THE

YEAR ENDING NOVEMBER 30, 1924





# The Commonwealth of Massachusetts

## DEPARTMENT OF PUBLIC WORKS

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.*

Pursuant to the provisions of law the fifth annual report of the Department of Public Works for the fiscal year ending Nov. 30, 1924, is submitted.

The organization of the Department in two divisions is set forth in chapter 16, General Laws.

The personnel during the year ending Nov. 30, 1924, was as follows:—

Commissioner of Public Works, WILLIAM F. WILLIAMS.

### *Division of Highways.*

Associate Commissioner, JAMES W. SYNAN.

Associate Commissioner, FRANK E. LYMAN.

### *Division of Waterways and Public Lands.*

Associate Commissioner, JESSE B. BAXTER.

Associate Commissioner, RICHARD K. HALE.

Executive Secretary for the Department, FREDERICK N. WALES.

### *Division of Highways.*

Chief Engineer, ARTHUR W. DEAN.

Project Engineer, FRANKLIN C. PILLSBURY.

Construction Engineer, RAYMOND W. COBURN.

Maintenance Engineer, GEORGE H. DELANO.

District Engineers:

District No. 1, Berkshire County, GEORGE A. CURTIS.

District No. 2,<sup>1</sup> Franklin, Hampshire and Hampden counties, H. D. PHILLIPS.

District No. 3,<sup>2</sup> Hampden and Worcester counties, JOHN A. JOHNSTON.

District No. 4, Middlesex County, F. D. SABIN.

District No. 5, Essex and Suffolk counties, D. H. DICKINSON.

District No. 6, Norfolk and Bristol counties, H. O. PARKER.

District No. 7, Plymouth, Barnstable, Dukes and Nantucket counties, H. C. HOLDEN.

Recording Secretary for the Division, MARY A. RILEY.

Financial Secretary for the Division, FRED FAIR.

### *Division of Waterways and Public Lands.*

Senior Assistant Engineer, for Boston Harbor, JOHN N. FERGUSON.

Senior Assistant Engineer, for harbors and waterways outside Boston Harbor,  
FRANCIS L. SELLEW.

Recording Secretary for the Division, EDNA F. TOWNSEND.

Financial Secretary for the Division, CORA I. ALLEN.

### *Registry of Motor Vehicles.*

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Chief Clerk, CHARLES R. GILLEY.

Chief of Inspection Force, ALBERT S. OLSSON.

A detailed report is presented herewith, covering the activities for the year of the Division of Highways, the Division of Waterways and Public Lands, and the Registry of Motor Vehicles.

WILLIAM F. WILLIAMS,  
*Commissioner of Public Works.*

DEC. 1, 1924.

<sup>1</sup> With the exception of five towns, which are included in District No. 3.

<sup>2</sup> Including Brimfield, Holland, Monson, Palmer and Wales, those remaining being in District No. 2.



## APPROPRIATIONS.

Chapter 126, Acts of 1924, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

*Service of the Department of Public Works.*

Item		
599.	For the salaries of the commissioner and the four associate commissioners, a sum not exceeding thirty-one thousand five hundred dollars . . . . .	\$31,500 00
600.	For personal services of clerks and assistants to the commissioner, a sum not exceeding eighteen thousand dollars . . . . .	18,000 00
601.	For traveling expenses of the commissioner, a sum not exceeding two thousand dollars . . . . .	2,000 00
	Division of Highways (the following appropriations for the operation and maintenance of this division, except as otherwise provided, are made from the receipts from motor vehicle fees):	
602.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding fifty-five thousand two hundred dollars . . . . .	55,200 00
603.	For traveling expenses of the associate commissioners, when traveling in the discharge of their official duties, a sum not exceeding twenty-five hundred dollars . . . . .	2,500 00
604.	For services other than personal, including printing the annual report and necessary office supplies and equipment, a sum not exceeding thirteen thousand dollars . . . . .	13,000 00
605.	For the care, repair and storage, replacement and purchase of road-building machinery and tools, a sum not exceeding two hundred thousand dollars . . . . .	200,000 00
605a.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding fifteen thousand dollars . . . . .	15,000 00
606.	For the construction and repair of town and county ways, including the sum of one hundred ten thousand dollars to cover the cost of the work authorized by chapter five hundred and eighteen of the acts of nineteen hundred and twenty-two, a sum not exceeding one million one hundred ten thousand dollars . . . . .	1,110,000 00
607.	For aiding towns in the repair and improvement of public ways, a sum not exceeding six hundred fifty thousand dollars . . . . .	650,000 00
608.	For the maintenance and repair of state highways, including care of snow on highways, and payment of damages caused by defects in state highways with the approval of the attorney general, a sum not exceeding three million eight hundred thousand dollars . . . . .	3,800,000 00
609.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding twenty thousand dollars . . . . .	20,000 00
610.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million seven hundred ninety thousand dollars in addition to any other funds which the department has available for the purpose . . . . .	1,790,000 00
612.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the general fund . . . . .	15,000 00

## Item Registration of Motor Vehicles:

613.	For personal services, a sum not exceeding four hundred forty-eight thousand dollars, from the receipts from motor vehicle fees . . . . .	\$448,000 00
614.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners of motor vehicles, a sum not exceeding three hundred sixty thousand dollars, from the receipts from motor vehicle fees . . . . .	360,000 00
Division of Waterways and Public Lands:		
615.	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand dollars . . . . .	50,000 00
616.	For necessary traveling expenses of the associate commissioners, a sum not exceeding one thousand dollars . . . . .	1,000 00
617.	For services other than personal, including printing and binding the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixty-five hundred dollars . . . . .	6,500 00
618.	For the care and maintenance of the province lands, a sum not exceeding five thousand dollars . . . . .	5,000 00
619.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding twenty-five thousand dollars . . . . .	25,000 00
620.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding fifty thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding year for the same purposes, provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations and individuals . . . . .	50,000 00
621.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, a sum not exceeding one thousand dollars . . . . .	1,000 00
622.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred twenty-five thousand dollars, to be paid from the port of Boston receipts . . . . .	125,000 00
623.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the port of Boston receipts . . . . .	8,000 00
624.	For the maintenance and improvement of commonwealth property under the control of the division, a sum not exceeding one hundred fourteen thousand five hundred dollars, to be paid from the port of Boston receipts . . . . .	114,500 00



## Item

625.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding fifteen thousand dollars . . .	\$15,000 00
626.	For the compensation of dumping inspectors, a sum not exceeding two thousand dollars, to be paid from the Waterways Fund . . .	2,000 00
627.	For expenses authorized by chapter four hundred and fifty-three of the acts of nineteen hundred and twenty-three, relative to access to great ponds, a sum not exceeding five hundred dollars . . .	500 00
628.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding three thousand dollars . . .	3,000 00
629.	For supervision and operation of the commonwealth stores, a sum not exceeding twenty-five hundred dollars to be paid from the port of Boston receipts . . .	2,500 00
<i>Specials:</i>		
630.	For the construction of streets, railroads and piers for the development of land at South Boston and East Boston, a sum not exceeding twenty-five thousand dollars, to be paid from the port of Boston receipts, the same to be in addition to any unexpended balances of appropriations heretofore made for this purpose . . .	25,000 00
631.	For expenses of dredging channels and filling marsh lands, a sum not exceeding twenty-five thousand dollars, to be paid from the port of Boston receipts, and to be in addition to any amount heretofore appropriated for the purpose . . .	25,000 00
632.	For dredging minor channels in Boston harbor, a sum not exceeding twenty-five thousand dollars, to be paid from the port of Boston receipts, and to be in addition to any amount heretofore appropriated for the purpose . . .	25,000 00
<i>Miscellaneous.</i>		
652.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred twenty thousand five hundred dollars, representing the state's portion or one-half of the estimated cost of maintenance, to be paid from the receipts from motor vehicle fees . . .	220,500 00
<i>Metropolitan District Commission.</i>		
661.	For maintenance of boulevards and parkways, a sum not exceeding two hundred seventeen thousand five hundred dollars, the same to be in addition to the amount appropriated by item 652 . . .	217,500 00
662.	For the construction of sidewalks in the Blue Hills Parkway, a sum not exceeding six thousand dollars, of which sum three thousand dollars is to be paid from Metropolitan Parks Maintenance Fund, Boulevards, and three thousand dollars from item six hundred and fifty-two . . .	3,000 00

Chapter 510, Acts of 1924, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is in part, as follows: —

*Claims.*

Payments for certain claims authorized by the following appropriations shall be certified by the comptroller of the Commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto:



## Item

237b.	For Gertrude A. Steele, an employee in the office of the registrar of motor vehicles, as reimbursement for the loss of a coat, the sum of forty-five dollars, from receipts in the Motor Vehicle Fees Fund . . . . .	\$45 00
237c.	For Arthur L. Devens of Boston, for damages to his automobile in consequence of its being run into by a motor truck of the commonwealth, the sum of three hundred dollars, from receipts in the Motor Vehicle Fees Fund . . . . .	300 00
237d.	For William Donohue of East Boston, for damages to his automobile due to an accident caused by a defect in the roadway of the state highway in the city of Revere, the sum of one hundred and fifty dollars, from receipts in the Motor Vehicle Fees Fund . . . . .	150 00
237e.	For Harold C. Knapp of Boston, for damages sustained as a result of a collision with an automobile operated by an employee of the department of public works, the sum of four hundred and seventy-five dollars, from receipts in the Motor Vehicle Fees Fund . . . . .	475 00
237f.	For Harold F. MacWilliams of Newburyport, for damages sustained as a result of a collision with an automobile operated by an employee of the department of public works, a sum not exceeding five hundred dollars, to be paid on receipted vouchers and to be paid from receipts in the Motor Vehicle Fees Fund . . . . .	500 00
237j.	For George I. Sidebottom of Easthampton, for damages to his automobile in consequence of its being run into by a motor truck operated by an employee of the department of public works, the sum of thirty dollars and five cents, from receipts in the Motor Vehicle Fees Fund . . . . .	30 05
237p.	For Susan F. McLaughlin, as authorized by chapter forty-one of the resolves of the present year, the sum of three thousand dollars . . . . .	3,000 00

*Service of the Department of Public Works.*

## Division of Highways:

608a.	For Emma C. Shea of Hinsdale, for medical services and injury to clothing resulting from a fall, July twenty-first, nineteen hundred and twenty-three, on a highway where oil had been sprayed by employees of the department of public works, the sum of one hundred dollars; and to Howard Stanton of Chesterfield, for the cost of repairing damages to his barn caused by blasting done by employees of said department in August, nineteen hundred and twenty-two, the sum of sixty dollars and forty-eight cents, severally to be paid from receipts from motor vehicle fees upon the filing of satisfactory releases or other evidence that payments are accepted in full compensation on the part of the commonwealth in respect thereto . . . . .	160 48
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## Registration of Motor Vehicles:

613.	For personal services, a sum not exceeding ten thousand dollars, from receipts from motor vehicle fees, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	10,000 00
614.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment and materials, including cartage and storage of the same, and for work incidental to the registration, and licensing of owners, of motor vehicles, a sum not exceeding eighteen thousand dollars, from receipts from motor vehicle fees, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	18,000 00

## Item

614a.	For expenses for ways and means other than those now used for registering and distributing licenses for motor vehicles, a sum not exceeding ten thousand dollars, from receipts from motor vehicle fees . . . . .	\$10,000 00
	Other highway improvements:	
614b.	For the construction of a state highway in the town of Hingham, as authorized by chapter four hundred and eighteen of the acts of nineteen hundred and twenty-three, a sum not exceeding one hundred thousand dollars, to be paid from the general fund . . . . .	100,000 00
614c.	For expenses of maintaining warning signs, as authorized by chapter four hundred and twenty-eight of the acts of the present year, a sum not exceeding three thousand dollars, from receipts from motor vehicle fees . . . . .	3,000 00
	Division of Waterways and Public Lands:	
620a.	For repairing damages to the bank of the Connecticut river in the town of Hadley, a sum not exceeding fifteen thousand dollars; provided, that before the work begins the town of Hadley shall pay into the treasury of the commonwealth the sum of forty-five hundred dollars, which shall be used for this purpose as a part of the fifteen thousand dollars hereby authorized, the balance of which shall be taken from item six hundred and twenty of the general appropriation act.	
624.	For the maintenance and improvement of commonwealth property under the control of the division, a sum not exceeding twenty-eight thousand dollars, to be paid from the port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose . . . . .	28,000 00
632a.	For completing a certain channel in the Herring river, a sum not exceeding twenty-seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	2,700 00
632b.	For improvement of the aircraft landing field at East Boston, as authorized by chapter three hundred and sixty-eight of the acts of the present year, a sum not exceeding nine thousand dollars . . . . .	9,000 00
	<i>Miscellaneous.</i>	
652.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifteen thousand dollars, representing the state's portion or one-half of the estimated cost of maintenance, to be paid from the receipts from motor vehicle fees and to be in addition to any amount heretofore appropriated for the purpose . . . . .	15,000 00
652a.	For construction of a boulevard, as authorized by chapter three hundred and seventy of the acts of the present year, a sum not exceeding five thousand dollars, to be paid from the receipts from motor vehicle fees . . . . .	5,000 00
652b.	For the laying out of a parkway in Stoneham and Wakefield, as authorized by chapter four hundred and nine of the acts of the present year, a sum not exceeding twenty-five hundred dollars, to be paid from the receipts from motor vehicle fees . . . . .	2,500 00
652c.	For the construction of a sidewalk on Charles River road in the town of Watertown, as authorized by chapter four hundred and nineteen of the acts of the present year, a sum not exceeding twelve hundred and fifty dollars, to be paid from the receipts from motor vehicle fees . . . . .	1,250 00



## DIVISION OF HIGHWAYS.

## EXPENDITURES.

Summary of expenditures by the Division of Highways during the fiscal year ending Nov. 30, 1924: —

For construction of State highways, under Chapter 81, General Laws . . . . .	\$2,608,659 44
For maintenance of State highways, under Section 13, Chapter 81, General Laws . . . . .	4,798,405 16
For construction of town and county ways, under Section 34, Chapter 90, General Laws as amended . . . . .	1,316,571 87
For highways in the five western counties, under Chapter 221, General Acts of 1915 and Chapter 572, Acts of 1920 . . . . .	414,028 88
For aiding towns in the repair and improvement of public ways, under Section 26, Chapter 81, General Laws as amended . . . . .	673,009 90
For the construction of a State highway in Hingham, under Chapter 213, General Acts of 1916, Chapter 138, Acts of 1921 and Chapter 418, Acts of 1923 . . . . .	90,141 81
For the construction of a highway in the city of Revere, under Chapter 501, Acts of 1922 as amended . . . . .	103,441 44
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under Chapter 716, Acts of 1912, and Chapter 126, Acts of 1924 . . . . .	7,498 25
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street, in Fall River, under Chapter 717, Acts of 1912, and Chapter 126, Acts of 1924 . . . . .	18,266 17
For the care, repair and storage, replacement and purchase of road building machinery and tools, under Chapter 126, Acts of 1924 . . . . .	200,003 17
For general expenses, under Chapter 126, Acts of 1924 . . . . .	62,397 76
For warning signs on State highways, under Chapter 510, Acts of 1924 . . . . .	2,587 60
For administering the law relative to advertising signs near highways, under Chapter 126, Acts of 1924 . . . . .	8,518 36
For the suppression of gypsy and brown-tail moths on State highways, under Chapter 126, Acts of 1924 . . . . .	12,029 40
For amount received from the American Indemnity Co., for the final settlement of claims against Alexander Palladino of Newton, covering work under Contract No. 2087, dated Oct. 28, 1921, for construction of town road in Ashfield . . . . .	10,698 58
Total . . . . .	\$10,326,257 79

## CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES.

The Division has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1 of chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34 of chapter 90, General Laws, as revised by section 1 of chapter 112, Acts of 1921, of approximately \$2,291,159.86 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Division.

## PETITIONS, MEETINGS AND HEARINGS.

In addition to the regular weekly meetings of the Division throughout the year, numerous hearings and conferences have been held, including the annual meeting and hearing in the several counties in the Commonwealth, for the open discussion of questions relating to the public ways, as required by section 1, chapter 81,

General Laws; hearings on petitions for the relocation of street railway tracks in Orange, Chelsea, North Andover, Westwood and Russell; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles; and on the matter of outdoor advertising.

Petitions were received and contracts signed during the year, as follows: —

	Petitions.	Contracts.
State highways . . . . .	24	52
Work under section 34, chapter 90, General Laws, as amended	99	209
Work under section 26, chapter 81, General Laws, as amended	154	153
Work under special acts . . . . .	—	3
Totals . . . . .	277	417

GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK DURING THE YEAR.

*State Highways.* — During the year ending Nov. 30, 1924, the Division completed work on about 34.733 miles of State highway, portions of which were laid out in 1923. Construction was commenced, but not completed, on over 7.5 miles of road in 10 cities and towns. Layouts were made of 33.975 miles of State highway in 25 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 1.447 miles of State highway were discontinued. The total length of State highways at the end of the year was 1,521.687 miles.

*Surveys, Estimates and Designs.* — During the year preliminary surveys, plans and estimates were made on contemplated State highways in 50 towns covering a distance of 64.8 miles. Surveys, plans and estimates were made for resurfacing or reconstruction in 72 towns covering a distance of 79.07 miles. Lines and grades for construction on State highways were made in 34 towns covering a distance of 47.31 miles, and for resurfacing and reconstruction in 38 towns for a distance of 60 miles. Final surveys were made on completed State highways in 19 towns for a distance of 39.74 miles, for resurfacing or reconstruction in 31 towns for a distance of 51.02 miles, and on roads other than State highways in 45 towns for a distance of 33.31 miles. Under section 23, chapter 81, General Laws, and section 34, chapter 90, General Laws as revised, and for roads to be constructed by the towns, surveys, plans and estimates have been made in 120 towns for a distance of 83.44 miles.

Lines and grades for construction have been made in 83 towns for a distance of 69.46 miles.

Under chapter 221, General Acts of 1915 as amended, and for work under other special acts, plans and estimates have been made in 1 town for a distance of 0.5 miles; and lines and grades for construction in 2 towns for a distance of 5.5 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 4 towns.

*Roads constructed in 1924.* — Construction has been completed on 34.733 miles of State highway; 101.394 miles of highways under the provisions of section 34, chapter 90, General Laws as revised; and 12.565 miles of highways under the provisions of special acts; making a total of 148.692 miles completed during the year.

Of the above roads completed this year, 0.407 miles were of water-bound macadam; 35.382 miles were of gravel; 19.673 miles were of bituminous concrete; 71.851 miles were of bituminous macadam; 1.401 miles were of water-bound macadam with a bituminous surface treatment; 9.623 miles were of reinforced concrete; 10.355 miles were of gravel with a bituminous treatment.

*Resurfacing and Widening.* — During the year 14.82 miles of State highway were widened but not resurfaced; 59.83 miles were resurfaced and widened; and 9.59 miles resurfaced but not widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

*Permits.* — There were 1,993 permits issued during the year for opening or occupying State highways for various purposes.



*Tree Planting and Roadside Development.* — The Division maintains at Palmer a plant with nursery and other equipment for the propagation, transplanting, repair and removal of trees along the State highways.

During the last twenty years 49,660 trees have been planted on the borders of State highways, of which 2,795 were planted this year, the Division continuing its policy of planting quick-growing trees and hedges to replace guard rails. The remedial work has included trimming or removing trees which have become obstructions, either to other structures or to satisfactory visibility of the roadway at certain locations. A number of vantage points have been developed by clearings to afford attractive views.

*Engineering Advice to Municipal Authorities.* — The Division furnished, without charge, engineering advice to 16 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.* — The Division approved during the year, under the provisions of section 7, chapter 44, General Laws as amended, specifications for the construction of 33 roads in 30 towns.

## STATE HIGHWAYS.

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

**MAYOR AND ALDERMEN OF REVERE.** — Road extending from the dividing line between the cities of Malden and Revere, at the junction of Beach Street, Wesley Street and Washington Avenue, to a point on Broadway about 1800 feet distant northeasterly from the junction of Malden and Revere streets with Broadway. Received Dec. 8, 1923.

**SELECTMEN OF BOURNE.** — Road extending from a point opposite the telephone office at Buzzards Bay to the Back River Bridge. Received Dec. 27, 1923.

**SELECTMEN OF ANDOVER.** — Road locally known as Elm Street extending from Washington Avenue to the dividing line between the towns of Andover and North Andover. Received Jan. 7, 1924.

**SELECTMEN OF WESTFORD.** — Road extending from the Chelmsford line along the Groton Road, North Street, Main Street, Union Street and Central Street to the Groton line. Received Jan. 30, 1924.

**SELECTMEN OF WESTFORD.** — Road locally known as the Littleton Road extending from the Boston Road to the Littleton Line. Received Jan. 30, 1924.

**SELECTMEN OF CHARLTON.** — Road extending from the State highway near the upper mill, so called, of the Charlton Woolen Company in the village of Charlton City to the State highway in Charlton City leading from Worcester to Southbridge. Received May 7, 1924.

**SELECTMEN OF SOUTHAMPTON.** — Road extending from the N. Y., N. H. & H. R.R. crossing at Lyon Mill to the Westfield line. Received June 3, 1924.

**SELECTMEN OF RUSSELL.** — Road extending from the village of Woronoco to the village of Crescent Mills. Received June 10, 1924.

**COUNTY COMMISSIONERS OF MIDDLESEX COUNTY.** — Road locally known as Boston Road and as the North Road, extending from the village of North Chelmsford through the towns of Chelmsford, Billerica and Bedford to Bedford Centre. Received May 21, 1924.

**SELECTMEN OF NORTH ANDOVER.** — Road locally known as the Salem Turnpike, extending from Wilson's Corner to the Lawrence line. Received June 23, 1924.

**COUNTY COMMISSIONERS OF BRISTOL COUNTY.** — Road locally known as County Street, extending from the dividing line between the towns of Dighton and Somerset to Ferry Street in Somerset. Received June 18, 1924.

- COUNTY COMMISSIONERS OF BRISTOL COUNTY. — Road locally known as Somerset Avenue, extending from a point near the Segreganset River Bridge in the town of Dighton to the Somerset line. Received June 18, 1924.
- SELECTMEN OF CHATHAM. — Road locally known as Depot Street, extending from the 1907 section of State highway near Nickerson's Garage, to Main Street near the First Congregational Church. Received June 18, 1924.
- SELECTMEN OF WILLIAMSTOWN. — Road locally known as the Hemlock Brook or Cold Spring Road, extending from Main Street to the dividing line between the town of Williamstown and the town of Petersburg, N. Y. Received July 1, 1924.
- SELECTMEN OF WAREHAM. — Road extending from a point on the Tremont Road, north-westerly of Wareham Centre, to the 1917 section of State highway in the village of East Wareham. Received July 14, 1924.
- SELECTMEN OF PALMER. — Road locally known as South Main Street, extending from the Monson line to Palmer Village; also a road extending from South Main Street at Tenneyville to the 1899 section of State highway in Palmer. Received July 11, 1924.
- SELECTMEN OF AGAWAM. — Road locally known as Main and Bridge Streets, extending from the junction of Main Street and the River Road to the West Springfield line. Received Aug. 11, 1924.
- SELECTMEN OF AUBURN. — Road extending from the Worcester line along Pinehurst Avenue, Oxford Street, Auburn Street and Central Street to South Street. Received Sept. 2, 1924.
- SELECTMEN OF ORLEANS. — Road extending from the State highway near the South Orleans Post Office to the Brewster line. Received Oct. 7, 1924.
- SELECTMEN OF WRENTHAM. — Road locally known as West and Cumberland Streets, extending from South Street at Wampum Corner to the Rhode Island line. Received Oct. 9, 1924.
- SELECTMEN OF BREWSTER. — Road extending from the Orleans line to the Harwich line in the south-easterly corner of the town of Brewster. Received Oct. 15, 1924.
- SELECTMEN OF WILLIAMSBURG. — Road extending from the Northampton line to a point in the village of Williamsburg near the junction of the Goshen and Chesterfield Roads. Received Oct. 29, 1924.
- COUNTY COMMISSIONERS OF BERKSHIRE COUNTY. — Road locally known as Cold Spring and Farmington River Road, extending from the Jacob's Ladder Road in West Becket to the Otis line, thence through Otis to the Sandisfield line, thence in the town of Sandisfield to the Tolland line. Received Nov. 18, 1924.
- SELECTMEN OF HARWICH. — Road extending from the Brewster line in East Harwich through Harwich Centre to the State highway at Sissons Corner. Received Nov. 18, 1924.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS.

(Chapter 81, General Laws.)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

##### *Norwood-Walpole.*

Dec. 26, 1923, contract made with the Alco Contracting Company, Inc., of Boston, for reconstructing about 5,470 feet of State highway on Walpole Street in Norwood and about 10,300 feet of State highway on Main Street in Walpole (also known as the Providence Turnpike), the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$203,130.90. Work completed Sept. 30, 1924. Expenditure during 1924, \$253,170.88.

##### *Plymouth.*

Dec. 26, 1923, contract made with the R. H. Newell Company, of Uxbridge, for the reconstruction of about 8,868 feet of State highway on the Plymouth-



Sandwich Road, the surface consisting of bituminous concrete. The proposal amounted to \$47,595.60. Work completed July 29, 1924. Expenditure during 1924, \$45,824.98.

*Lenox.*

Dec. 26, 1923, contract made with C. W. Blakeslee & Sons, of New Haven, Conn., for the reconstructing of about 12,712 feet of State highway on the Pittsfield Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$154,017.45. Work completed Oct. 7, 1924. Expenditure during 1924, \$161,633.28.

*Nantucket.*

Dec. 26, 1923, contract made with Michael F. Roach, of East Bridgewater, for resurfacing and widening about 34,237 feet of State highway, the surface consisting of bituminous concrete. The proposal amounted to \$100,115.00. Work completed Nov. 25, 1924. Expenditure during 1924, \$86,271.63.

*Sudbury.*

April 15, 1924, contract made with Charles A. Bassett, of Winthrop, for widening about 1,000 feet of State highway at Green Hill, the surface consisting of bituminous macadam. The proposal amounted to \$4,439.75. Work completed June 10, 1924. Expenditure during 1924, \$5,534.69.

*Abington.*

April 15, 1924, contract made with the West Roxbury Trap Rock Company, of Boston, for the reconstruction of 5,000 feet of State highway on Bedford Street, the surface consisting of bituminous macadam. The proposal amounted to \$34,134.25. Work completed Aug. 12, 1924. Expenditure during 1924, \$36,188.74.

*Barnstable.*

April 22, 1924, contract made with Luke S. White, Inc., of Kingston, for building a reinforced concrete beam bridge over Bumps River and about 350 feet of State highway on the Osterville-Barnstable Road, the surface consisting of bituminous concrete. The proposal amounted to \$34,186.35. Work completed Nov. 25, 1924. Expenditure during 1924, \$32,893.50.

*Chelmsford-Tyngsborough.*

May 6, 1924, contract made with the R. H. Newell Company, of Uxbridge, for the reconstruction of 6,354 feet of State highway on the Nashua Road in Chelmsford, and 21,111 feet of State highway on the same road in Tyngsborough, the surface consisting of bituminous macadam. The proposal amounted to \$184,647.15. Work completed Oct. 14, 1924. Expenditure during 1924, \$187,997.80.

*Chester.*

May 6, 1924, contract made with Lawrence J. Kelleher, of Montague, for resurfacing and widening about 1,400 feet of State highway on the Pittsfield Road, the surface consisting of bituminous macadam. The proposal amounted to \$17,731.20. Work completed Aug. 12, 1924. Expenditure during 1924, \$20,736.83.

*Haverhill.*

May 6, 1924, contract made with Luigi C. Carchia, of Boston, for the construction of 1,939 feet of State highway on Kenoza Avenue, the surface on 1,439 feet consisting of reinforced cement concrete, and on the remaining 500 feet of bituminous macadam. The proposal amounted to \$21,912.25. Work completed Sept. 10, 1924. Expenditure during 1924, \$15,732.84.

*Lowell-Chelmsford.*

May 6, 1924, contract made with Thomas G. Jewett, Jr., Inc., of New Bedford, for the reconstruction of about 7,029 feet of State highway on Princeton Street in Lowell, and about 7,400 feet of State highway on the same road in Chelmsford, the surface in Lowell consisting of block pavement, and the surface in Chelmsford

consisting of reinforced concrete. Alternate proposals were received amounting to \$186,244.30 and \$205,792.80. Work completed Sept. 30, 1924. Expenditure during 1924, \$190,114.18.

*Wayland.*

May 13, 1924, contract made with the Crandall Engineering Company, of Boston, for the construction of a reinforced concrete beam bridge over the Sudbury River and 1,000 feet of State highway on the Boston-Worcester Road, the surface consisting of bituminous macadam. The proposal amounted to \$59,392.20. Work completed Dec. 2, 1924. Expenditure during 1924, \$50,133.41.

*Hingham.*

May 27, 1924, contract made with A. W. Loud, of Quincy, for resurfacing and widening about 186 feet of the State highway on Whiting Street, the surface consisting of bituminous macadam. The proposal amounted to \$1,958.25. Work completed Aug. 5, 1924. Expenditure during 1924, \$2,667.03.

*Southampton.*

May 27, 1924, contract made with Daniel O'Connell's Sons, of Holyoke, for the construction of about 12,997 feet of State highway on College Road, the surface consisting of bituminous macadam. The proposal amounted to \$132,510.76. Work completed Nov. 18, 1924. Expenditure during 1924, \$114,183.14.

*Lakeville.*

June 3, 1924, contract made with Perini & Sons, Inc., of Ashland, for the reconstruction of about 25,288 feet of State highway on the County Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$312,361.60. Work completed Nov. 25, 1924. Expenditure during 1924, \$298,790.49.

*Salisbury-Newburyport.*

June 3, 1924, contract made with James E. Watkins, of Amesbury, for the reconstruction of about 8,230 feet of State highway on the Newburyport-Portsmouth Road in Salisbury, and about 497 feet of State highway on the same road in Newburyport, the surface consisting of bituminous macadam. The proposal amounted to \$57,674.25. Work completed Oct. 28, 1924. Expenditure during 1924, \$61,140.55.

*Barnstable.*

June 3, 1924, contract made with Herbert L. Thomas, of Barnstable, for the construction of about 1,383 feet of State highway on the South County Road, the surface consisting of bituminous concrete. The proposal amounted to \$14,768.75. Work completed Aug. 26, 1924. Expenditure during 1924, \$16,000.00.

*Essex-Ipswich.*

June 3, 1924, contract made with Cenedella & Company, of Milford, for the construction of 15,306 feet of State highway on Main Street and Ipswich Road in Essex, and 10,571 feet of State highway on Essex Road in Ipswich, the surface consisting of bituminous macadam. The proposal amounted to \$184,396.20. Work completed Nov. 25, 1924. Expenditure during 1924, \$173,679.14.

*Wareham.*

June 10, 1924, contract made with the Lane Construction Corporation, of Meriden, Conn., for the construction of about 16,601 feet of State highway on the Tremont Road, the surface consisting of bituminous macadam. The proposal amounted to \$160,299.50. Work about 85 per cent completed. Expenditure during 1924, \$135,518.92.

*Reading-North Reading-Andover.*

June 18, 1924, contract made with the R. H. Newell Company, of Uxbridge, for widening and patching about 14,100 feet of State highway in Reading, about 13,400 feet of State highway in North Reading, and about 15,750 feet of State



highway in Andover on Main Street, the surface consisting of bituminous concrete. The proposal amounted to \$52,933.65. Work completed Sept. 30, 1924. Expenditure during 1924, \$56,886.46.

*Orange.*

July 1, 1924, contract made with Gould & Spencer, of Acton, for the reconstruction of about 1,250 feet of State highway on the Athol Road, the surface consisting of bituminous macadam. The proposal amounted to \$8,547.00. Work completed Sept. 10, 1924. Expenditure during 1924, \$8,637.02.

*Pembroke.*

July 1, 1924, contract made with Angelo Susi & Company, of Boston, for the reconstruction of about 11,200 feet of State highway on Washington Street, the surface consisting of bituminous macadam. The proposal amounted to \$72,139.75. Work completed Nov. 5, 1924. Expenditure during 1924, \$74,744.81.

*Brookfield-East Brookfield.*

July 8, 1924, contract made with Carlo Bianchi & Company, Inc., of Framingham, for the reconstruction of 3,172 feet of State highway in Brookfield, and 1,728 feet of State highway in East Brookfield, on the Worcester Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$57,025.95. Work completed Nov. 18, 1924. Expenditure during 1924, \$59,465.92.

*Truro-Provincetown.*

July 8, 1924, contract made with the Lane Construction Corporation, of Meriden, Conn., for the resurfacing of 28,797 feet of State highway in Truro and 5,820 feet of State highway in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$165,434.25. Work practically completed. Expenditure during 1924, \$125,020.44.

*Dighton-Somerset.*

July 15, 1924, contract made with the Canedy Construction Company, Inc., of New Bedford, for the construction of about 15,735 feet of State highway in Dighton, and about 2,560 feet of State highway in Somerset, on Somerset Avenue, the surface consisting of bituminous macadam on 2,150 feet, and of reinforced cement concrete on 16,145 feet. The proposal amounted to \$236,741.73. Work about 55 per cent completed. Expenditure during 1924, \$127,081.34.

*Hinsdale.*

July 22, 1924, contract made with the Hoyt Construction Company, of Holyoke, for the construction of two reinforced concrete beam bridges over the Housatonic River and about 577 feet of State highway, the surface consisting of gravel. The proposal amounted to \$17,981.00. Work completed Nov. 25, 1924. Expenditure during 1924, \$15,055.68.

*Auburn.*

July 29, 1924, contract made with Charles A. Haggerty, of Webster, for the reconstruction of 7,550 feet of State highway on the Worcester-Southbridge Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$91,595.25. Work about 90 per cent completed. Expenditure during 1924, \$83,566.78.

*Wilbraham.*

Aug. 5, 1924, contract made with Willard C. Tannatt, Jr., of Easthampton, for the reconstruction of 2,800 feet of State highway on the Springfield Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$25,313.35. Work completed Oct. 21, 1924. Expenditure during 1924, \$28,601.52.

*Seekonk.*

Aug. 12, 1924, contract made with Joseph McCormick, of East Providence, R. I., for constructing 8,437 feet and reconstructing 2,154 feet of State highway on Fall River Avenue, the surface consisting of reinforced cement concrete. The proposal amounted to \$119,436.40. Work about 90 per cent completed. Expenditure during 1924, \$107,543.16.

*Methuen.*

Aug. 12, 1924, contract made with Thomas G. Jewett, Jr., Inc., of New Bedford, for the construction of 10,037 feet of State highway on North Lowell Street, the surface consisting of bituminous macadam. The proposal amounted to \$78,696.95. Work completed Nov. 25, 1924. Expenditure during 1924, \$72,231.40.

*Barre.*

Aug. 19, 1924, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Conn., for the construction and reconstruction of about 6,600 feet of State highway on the Petersham Road, the surface consisting of bituminous macadam. The proposal amounted to \$58,467.00. Work completed Nov. 18, 1924. Expenditure during 1924, \$52,380.36.

*Westwood.*

Aug. 26, 1924, contract made with Paul J. Keating, of Fitchburg, for the reconstruction of 5,534 feet of State highway on Washington Street, the surface consisting of bituminous macadam. The proposal amounted to \$55,708.20. Work completed Nov. 29, 1924. Expenditure during 1924, \$57,952.46.

*North Andover-Lawrence.*

Aug. 26, 1924, contract made with Luigi C. Carchia, of Boston, for the construction of 3,250 feet of State highway on Andover Street in North Andover, 3,116 feet of State highway on the Salem Turnpike in North Andover, and 1,171 feet of State highway on Winthrop Avenue in Lawrence, the surface consisting of reinforced cement concrete. The proposal amounted to \$124,318.65. Work half completed. Expenditure during 1924, \$68,532.89.

*Marlborough.*

Sept. 2, 1924, contract made with John A. Gaffey & Son, of Medford, for the construction of 1,550 feet of State highway on East Main Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$22,666.70. Work practically completed. Expenditure during 1924, \$24,186.79.

*Freetown.*

Sept. 2, 1924, contract made with Carlo Bianchi & Co., Inc., of Framingham, for the resurfacing and widening of about 16,860 feet of State highway on the County Road, the surface consisting of bituminous macadam. The proposal amounted to \$79,863.50. Work completed Nov. 25, 1924. Expenditure during 1924, \$65,419.36.

*Holyoke-Easthampton.*

Sept. 2, 1924, contract made with Daniel O'Connell's Sons, of Holyoke, for the reconstruction of about 22,444 feet of State highway in Holyoke, and about 250 feet of State highway in Easthampton, on Northampton Street and the Smith's Ferry Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$302,498.10. Work about 25 per cent completed. Expenditure during 1924, \$83,621.94.

*Chatham.*

Sept. 2, 1924, contract made with Sidney W. Lawrence, of Falmouth, for the construction of about 1,200 feet of State highway on Depot and Main Streets, the surface consisting of bituminous concrete. The proposal amounted to \$9,568.65. Work completed Nov. 25, 1924. Expenditure during 1924, \$7,850.42.

*Agawam.*

Sept. 2, 1924, contract made with the Lane Construction Corporation, of Meriden, Conn., for the construction of about 9,429 feet of State highway on Main Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$60,417.00. Work practically completed. Expenditure during 1924, \$66,838.83.



*Newburyport.*

Sept. 10, 1924, contract made with the William L. Miller Company, of Boston, for repairing the east fender pier of the bridge over the Merrimac River on the State highway leading to Salisbury. The proposal amounted to \$1,931.50. Work completed Sept. 30, 1924. Expenditure during 1924, \$495.00; paid by Doane Tow Boat Co., \$1,775.71.

*Lee.*

Sept. 16, 1924, contract made with the Lane Construction Corporation, of Meriden, Conn., for the reconstruction of about 1,500 feet of the State highway on Jacob's Ladder, the surface consisting of reinforced cement concrete. The proposal amounted to \$38,578.55. Work practically completed. Expenditure during 1924, \$33,777.45.

*Sheffield.*

Sept. 16, 1924, contract made with Luke S. White, Inc., of Kingston, for the construction of steel truss bridge over the Housatonic River and about 900 feet of State highway, the surface over the bridge consisting of bituminous concrete and on the approaches of gravel. The proposal amounted to \$52,888.00. Work about 20 per cent completed. Expenditure during 1924, \$10,124.38.

*Russell.*

Sept. 16, 1924, contract made with the Adams & Ruxton Construction Company, of Springfield, for the construction of about 2,943 feet of State highway through Russell Village on a new location, including a reinforced concrete beam bridge over Black Brook the surface consisting of bituminous macadam. The proposal amounted to \$44,983.90. Work about one-third completed. Expenditure during 1924, \$13,568.53.

*Brimfield.*

Sept. 23, 1924, contract made with D'Onfro Brothers, Inc., of Leominster, for the construction of a reinforced concrete beam bridge over Elbow Brook and about 800 feet of State highway, the surface consisting of gravel. The proposal amounted to \$13,907.00. Work practically completed. Expenditure during 1924, \$11,947.09.

*Palmer-Monson.*

Sept. 23, 1924, contract made with Carl B. Lindholm, of Pittsfield, for the construction of a reinforced concrete beam bridge over the Quaboag River at the Palmer-Monson line, of about 363 feet of State highway in Monson and about 4,750 feet of State highway in Palmer, the surface over the bridge consisting of bituminous concrete and on the road of bituminous macadam. The proposal amounted to \$78,118.85. Work about one-third completed. Expenditure during 1924, \$25,257.92.

*Chester.*

Oct. 7, 1924, contract made with David W. Dwyer, of Dalton, for the construction of a reinforced concrete beam bridge over Walker Brook and about 513 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$20,296.85. Work about one-fourth completed. Expenditure during 1924, \$5,618.09.

*Methuen.*

Oct. 14, 1924, contract made with James E. Watkins, of Amesbury, for the widening of about 2,000 feet of State highway on Lowell Street, the surface consisting of bituminous macadam. The proposal amounted to \$20,984.70. Work about 30 per cent completed. Expenditure during 1924, \$6,062.06.

*Bridgewater.*

Oct. 14, 1924, contract made with Powers Brothers, of Brockton, for the reconstruction of about 1,155 feet of State highway on Summer Street, the surface consisting of bituminous macadam. The proposal amounted to \$12,922.25. Work about 40 per cent completed. Expenditure during 1924, \$5,510.87.

*Williamstown.*

Oct. 14, 1924, contract made with D. S. McGrath, Inc., of Adams, for the construction of about 9,843 feet of State highway on the Cold Spring Road, including three reinforced concrete beam bridges, the surface consisting of bituminous macadam. The proposal amounted to \$108,840.80. Work about one-tenth completed. Expenditure during 1924, \$10,503.23.

*Sheffield.*

Oct. 21, 1924, contract made with Willard C. Tannatt Jr., of Easthampton, for the construction of a reinforced concrete beam bridge over Konkapot Brook and about 900 feet of State highway on the Ashley Falls Road, the surface over the bridge consisting of bituminous concrete, and the surface on the approaches consisting of gravel. The proposal amounted to \$23,545.00. Work about one-twelfth completed. Expenditure during 1924, \$2,780.07.

*Wilbraham.*

Oct. 28, 1924, contract made with the Ernest F. Carlson Company, of Springfield, for the reconstruction of about 1,100 feet of State highway on the Worcester-Springfield Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$25,520.82. Work completed about one-third. Expenditure during 1924, \$7,952.20.

*Lunenburg.*

Oct. 28, 1924, contract made with Charles E. Horne, of Millbury, for the reconstruction of about 900 feet of State highway on Massachusetts Avenue, the surface consisting of bituminous macadam. The proposal amounted to \$4,171.35. Work completed Nov. 25, 1924. Expenditure during 1924, \$4,284.04.

*Berkley.*

Nov. 11, 1924, contract made with Perini & Sons, Inc., of Ashland, for the reconstruction of about 4,564 feet of State highway on County Road, the surface consisting of reinforced concrete. This work was done under an extension of the Lakeville contract dated June 3, 1924. Work completed Nov. 25, 1924. Expenditure during 1924, \$45,299.06.

The expenditures for the construction of State highways in various counties during the year were:

Barnstable, \$137,796.77	Hampshire, \$181,071.22
Berkshire, \$311,447.40	Middlesex, \$102,007.57
Bristol, \$419,666.70	Nantucket, \$4,006.44
Dukes, \$37,860.19	Norfolk, \$121,160.94
Essex, \$377,199.17	Plymouth, \$369,667.07
Franklin, \$40,403.77	Worcester, \$169,679.60
Hampden, \$336,692.60	Total, \$2,608,659.44

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$59,120.16; Bourne, \$69,184.19; Chatham, \$9,492.42.

*Berkshire County.* — Dalton, \$12,038.57; Hinsdale, \$18,204.76; Lanesborough, \$31,979.09; North Adams, \$8,565.89; Sheffield, \$225,275.89; Williamstown, \$12,700.11; Windsor, \$2,683.09.

*Bristol County.* — Dighton, \$139,421.23; Easton, \$36,074.63; Freetown, \$16,303.85; Rehoboth, \$19,072.47; Seekonk, \$130,037.11; Somerset, \$14,240.70; Swansea, \$64,516.71.

*Dukes County.* — Edgartown, \$22,431.25; West Tisbury, \$15,428.94.

*Essex County.* — Essex, \$102,999.28; Haverhill, \$19,023.55; Ipswich, \$84,969.51; Lawrence, \$14,713.39; Methuen, \$87,339.46; North Andover, \$68,153.98.

*Franklin County.* — Bernardston, \$40,403.77.

*Hampden County.* — Agawam, \$80,818.97; Brimfield, \$198,491.83; Chester, \$6,793.18; Monson, \$8,372.24; Palmer, \$22,168.67; Russell, \$16,406.55; Southwick, \$117.71; Westfield, \$3,523.45.



*Hampshire County.* — Amherst, \$289.15; Cummington, \$13,445.09; Goshen, \$22.37; Southampton, \$151,159.32; Williamsburg, \$16,155.29.

*Middlesex County.* — Concord, \$4,452.37; Dracut, \$5,644.14; Marlborough, \$29,245.75; Wayland, \$60,619.41; Wilmington, \$2,045.90.

*Nantucket County.* — Nantucket, \$4,006.44.

*Norfolk County.* — Braintree, \$19,603.74; Milton, \$101,557.20.

*Plymouth County.* — Bridgewater, \$20,409.05; Lakeville, \$21,874.47; Middleborough, \$36,244.25; Rochester, \$30,006.01; Scituate, \$37,884.11; Wareham, \$223,249.18.

*Worcester County.* — Barre, \$36,468.69; Mendon, \$483.67; Petersham, \$319.22; Rutland, \$42,154.70; Sterling, \$9,455.80; West Boylston, \$14,183.70; West Brookfield, \$66,613.82.

## MAINTENANCE OF STATE HIGHWAYS.

(Section 13, Chapter 81, General Laws.)

The expenditures during the year in various counties were:

Barnstable, \$455,786.32	Hampshire, \$79,424.34
Berkshire, \$387,723.85	Middlesex, \$635,188.81
Bristol, \$455,936.52	Nantucket, \$94,377.06
Dukes, \$128,552.08	Norfolk, \$519,403.25
Essex, \$443,639.55	Plymouth, \$638,031.07
Franklin, \$122,617.13	Suffolk, \$16,885.74
Hampden, \$246,969.75	Worcester, \$573,869.69
	Total, \$4,798,405.16

Details of the foregoing expenditures follow:

*Barnstable County.* — Barnstable, \$45,212.72; Bourne, \$13,178.54; Brewster, \$4,988.32; Chatham, \$5,702.98; Dennis, \$8,944.50; Eastham, \$1,300.02; Falmouth, \$12,595.85; Harwich, \$5,702.31; Mashpee, \$4,873.56; Orleans, \$3,027.68; Provincetown, \$51,049.88; Sandwich, \$47,524.81; Truro, \$150,809.61; Wellfleet, \$93,255.43; Yarmouth, \$7,620.11.

*Berkshire County.* — Adams, \$2,328.62; Becket, \$16,803.63; Cheshire, \$15,765.56; Clarksburg, \$2,995.14; Dalton, \$9,591.79; Egremont, \$3,882.22; Florida, \$16,747.95; Great Barrington, \$5,878.76; Hancock, \$3,354.22; Hinsdale, \$1,995.45; Lanesborough, \$8,758.01; Lee, \$46,926.58; Lenox, \$186,306.21; New Ashford, \$2,079.53; New Marlborough, \$232.65; North Adams, \$8,196.82; Otis, \$324.29; Pittsfield, \$10,554.73; Richmond, \$5,459.79; Savoy, \$2,765.77; Sheffield, \$6,547.00; Stockbridge, \$6,251.45; Washington, \$2,685.48; Williamstown, \$11,614.11; Windsor, \$9,678.09.

*Bristol County.* — Acushnet, \$2,954.45; Attleboro, \$65,169.58; Berkley, \$50,994.86; Dartmouth, \$6,257.08; Dighton, \$5,963.72; Easton, \$7,891.75; Fairhaven, \$1,990.85; Fall River, \$34.87; Freetown, \$75,437.18; Mansfield, \$855.51; North Attleborough, \$161,570.89; Norton, \$9,604.92; Raynham, \$7,802.29; Rehoboth, \$7,235.96; Seekonk, \$12,032.24; Somerset, \$12,870.72; Swansea, \$12,273.06; Taunton, \$10,268.41; Westport, \$4,728.18.

*Dukes County.* — Chilmark, \$5,960.76; Edgartown, \$9,029.46; Gay Head, \$91,382.65; Oak Bluffs, \$20,129.86; Tisbury, \$691.32; West Tisbury, \$1,358.03.

*Essex County.* — Amesbury, \$6,491.40; Andover, \$42,496.97; Beverly, \$5,232.30; Danvers, \$3,036.90; Essex, \$25,361.77; Gloucester, \$4,761.65; Groveland, \$4,963.12; Hamilton, \$2,308.89; Haverhill, \$183,517.34; Ipswich, \$3,253.86; Lawrence, \$1,659.59; Lynn, \$9,013.22; Lynnfield, \$1,896.91; Merrimac, \$3,135.79; Methuen, \$12,325.02; Middleton, \$1,005.03; Newbury, \$8,688.70; Newburyport, \$5,784.32; North Andover, \$12,762.43; Peabody, \$2,700.02; Rockport, \$1,075.11; Rowley, \$6,544.61; Salem, \$2,249.04; Salisbury, \$72,566.53; Saugus, \$8,565.87; Swampscott, \$1,758.07; Topsfield, \$3,565.50; Wenham, \$676.90; West Newbury, \$6,242.69.

*Franklin County.* — Ashfield, \$1,673.24; Bernardston, \$8,866.36; Buckland, \$2,879.51; Charlemont, \$12,961.78; Colrain, \$1,650.91; Conway, \$2,992.49;

Deerfield, \$16,405.14; Erving, \$24,384.86; Gill, \$207.57; Greenfield, \$4,273.28; Montague, \$5,133.37; Northfield, \$4,101.65; Orange, \$14,967.94; Shelburne, \$8,089.62; Sunderland, \$2,917.96; Whately, \$11,111.45.

*Hampden County.* — Agawam, \$2,963.66; Blandford, \$3,478.55; Brimfield, \$3,938.25; Chester, \$33,972.09; Chicopee, \$10,631.83; East Longmeadow, \$2,592.61; Holyoke, \$93,094.92; Monson, \$3,501.01; Palmer, \$16,205.93; Russell, \$14,237.14; Southwick, \$1,218.80; Wales, \$3,305.01; West Springfield, \$2,315.39; Westfield, \$11,613.47; Wilbraham, \$43,901.09.

*Hampshire County.* — Amherst, \$6,111.57; Belchertown, \$3,639.64; Cummington, \$11,075.18; Easthampton, \$721.17; Goshen, \$3,307.58; Granby, \$5,069.94; Hadley, \$4,489.72; Hatfield, \$960.78; Huntington, \$13,933.17; Northampton, \$4,157.88; South Hadley, \$7,792.45; Southampton, \$3,337.24; Ware, \$9,194.19; Williamsburg, \$5,633.83.

*Middlesex County.* — Acton, \$4,757.56; Arlington, \$623.30; Ashby, \$4,510.36; Ashland, \$3,258.92; Ayer, \$1,187.12; Bedford, \$2,284.40; Billerica, \$4,741.05; Boxborough, \$2,122.47; Burlington, \$40,715.22; Chelmsford, \$154,638.18; Concord, \$4,241.26; Dracut, \$3,926.88; Framingham, \$5,111.11; Groton, \$2,570.44; Holliston, \$4,489.74; Hudson, \$1,841.58; Lexington, \$6,454.22; Lincoln, \$1,728.38; Littleton, \$3,029.47; Lowell, \$106,689.99; Malden, \$127.55; Marlborough, \$9,517.15; Medford, \$879.13; Melrose, \$872.11; Natick, \$3,851.55; Newton, \$2,166.35; North Reading, \$20,243.15; Pepperell, \$3,344.52; Reading, \$23,910.57; Shirley, \$778.29; Somerville, \$2,920.30; Stoneham, \$2,457.00; Sudbury, \$9,838.11; Tewksbury, \$3,274.40; Townsend, \$4,665.21; Tyngsborough, \$163,806.64; Waltham, \$520.31; Watertown, \$555.91; Wayland, \$3,078.41; Westford, \$4,947.51; Weston, \$3,450.50; Wilmington, \$5,003.40; Winchester, \$1,489.03; Woburn, \$4,570.06.

*Nantucket County.* — Nantucket, \$94,377.06.

*Norfolk County.* — Avon, \$2,362.94; Bellingham, \$3,534.59; Braintree, \$15,820.43; Canton, \$5,747.56; Cohasset, \$918.54; Dedham, \$2,383.01; Dover, \$1,879.38; Foxborough, \$3,594.35; Franklin, \$4,447.53; Holbrook, \$4,182.46; Milton, \$2,963.06; Needham, \$2,398.70; Norfolk, \$9,128.75; Norwood, \$109,305.69; Plainville, \$8,737.46; Quincy, \$3,817.73; Randolph, \$4,071.03; Sharon, \$441.91; Stoughton, \$3,747.57; Walpole, \$233,970.53; Wellesley, \$2,338.48; Westwood, \$63,973.56; Weymouth, \$9,547.17; Wrentham, \$20,090.82.

*Plymouth County.* — Abington, \$43,651.05; Bridgewater, \$9,872.54; Brockton, \$2,670.31; Duxbury, \$5,837.17; East Bridgewater, \$2,538.25; Hanover, \$6,209.99; Hingham, \$10,118.20; Kingston, \$4,834.68; Lakeville, \$338,250.57; Marion, \$4,584.37; Marshfield, \$6,049.98; Mattapoisett, \$2,372.25; Middleborough, \$13,850.10; Norwell, \$1,340.63; Pembroke, \$86,368.37; Plymouth, \$57,470.39; Rochester, \$5,474.94; Rockland, \$3,839.86; Scituate, \$7,041.35; Wareham, \$21,491.91; West Bridgewater, \$1,790.98; Whitman, \$2,373.18.

*Suffolk County.* — Boston, \$5,211.27; Chelsea, \$1,872.37; Revere, \$9,802.10.

*Worcester County.* — Ashburnham, \$17,687.42; Athol, \$4,809.67; Auburn, \$97,062.12; Barre, \$28,654.05; Blackstone, \$4,317.33; Brookfield, \$43,078.11; Charlton, \$11,709.84; Clinton, \$54.25; Douglas, \$3,618.59; Dudley, \$6,444.77; East Brookfield, \$25,740.85; Fitchburg, \$4,974.28; Gardner, \$6,882.79; Grafton, \$12,435.72; Hardwick, \$1,365.51; Harvard, \$2,422.70; Holden, \$10,737.80; Hopedale, \$614.83; Lancaster, \$2,558.93; Leicester, \$44,819.17; Leominster, \$4,555.98; Lunenburg, \$40,154.34; Mendon, \$2,400.22; Milford, \$5,967.74; Millbury, \$4,625.61; Millville, \$3,686.47; New Braintree, \$512.34; North Brookfield, \$1,936.63; Northborough, \$8,934.73; Northbridge, \$2,774.53; Oakham, \$1,478.88; Oxford, \$5,016.45; Paxton, \$6,787.07; Petersham, \$4,626.44; Phillips-ton, \$1,989.71; Princeton, \$1,889.03; Rutland, \$9,015.57; Shrewsbury, \$10,501.87; Southborough, \$3,870.15; Southbridge, \$761.51; Spencer, \$3,493.60; Sterling, \$7,196.83; Sturbridge, \$2,501.01; Sutton, \$8,888.72; Templeton, \$11,665.98; Upton, \$7,293.61; Uxbridge, \$7,938.99; Warren, \$4,615.01; Webster, \$1,984.91; West Boylston, \$4,583.70; West Brookfield, \$3,978.54; Westborough, \$5,694.00; Westminster, \$32,770.01; Winchendon, \$13,371.06; Worcester, \$6,419.72.



HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS.

The following contracts were entered into during the year for the construction of town ways under special acts of the Legislature.

*Wilbraham.*

Apr. 1, 1924, contract made with the E. F. Carlson Co., of Springfield, for building abutments and railroad detour for a bridge near the North Wilbraham station of the Boston & Albany Railroad, under the provisions of chapter 518, Acts of 1922. The proposal amounted to \$75,432.65. Work about 90 per cent completed. Expenditure during 1924, \$68,426.42.

*Wilbraham.*

Apr. 1, 1924, contract made with the McClintic, Marshall Co., of Pittsburgh, Pa., for furnishing, fabricating and erecting a steel bridge near the North Wilbraham station of the Boston & Albany Railroad, under the provisions of chapter 518, Acts of 1922. The proposal amounted to \$25,088.00. Work completed Nov. 29, 1924. Expenditure during 1924, \$21,654.51.

*Gill.*

Oct. 14, 1924, contract made with Lawrence J. Kelleher, of Montague, for the construction of about 1,400 feet of highway on the Northfield Road, under the provisions of chapter 221, Acts of 1915, as amended by chapter 572, Acts of 1920, the surface consisting of gravel. The proposal amounted to \$8,711.50. Work completed Nov. 25, 1924. Expenditure during 1924, \$7,767.72.

The total expenditures during the year in the five western counties, for the construction of highways were \$414,028.88, details of which follow:—

- Route No. 3 — Otis, \$41,260.58; Sandisfield, \$132,278.62.
- Route No. 6 — Worthington, \$170,375.78.
- Route No. 8 — Enfield, \$97.81.
- Route No. 9 — Granville, \$16,372.47; Southwick, \$14,034.35.
- Route No. 11 — Gill, \$11,123.96.
- Route No. 14 — Warwick, \$13,642.28.
- Route No. 17 — Chesterfield, \$25.00; Williamsburg, \$100.00.
- Town Road in Middlefield, \$14,718.03.

FEDERAL AID IN CONSTRUCTING HIGHWAYS.

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the States in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1923, inc.

The following Federal-aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	\$73,850 95
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
Total	\$7,919,780 01

The total amount received by Massachusetts from 1916 to Nov. 30, 1924, is \$5,207,022.54.

Projects to the number of 25 have been prepared in addition to those shown in

the report of the Department of Public Works, Division of Highways, for 1923. The total mileage included in the various Federal-aid road projects in this State, from the commencement of work of this character to Nov. 30, 1924, inclusive, is 359.987. The mileage in various counties is:—

Barnstable, 31.193 miles	Hampden, 22.540 miles
Berkshire, 46.098 miles	Hampshire, 19.308 miles
Bristol, 26.739 miles	Middlesex, 38.800 miles
Dukes, 3.117 miles	Norfolk, 29.515 miles
Essex, 48.522 miles	Plymouth, 25.866 miles
Franklin, 16.671 miles	Worcester, 51.618 miles

### STATEMENT OF FEDERAL AID ROAD PROJECTS<sup>1</sup> TO NOV. 30, 1924.

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid Involved.	Amount received.	Remarks.
1	Acushnet-Fairhaven . . . . .	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover . . . . .	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus . . . . .	1.162	11,620 00	11,620 00	Work completed.
4	Danvers . . . . .	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton . . . . .	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich . . . . .	1.818	10,678 02	10,678 02	Work completed.
7	Cummington . . . . .	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham . . . . .	7.016	90,074 51	90,074 51	Work completed.
9	Saugus . . . . .	3.122	65,472 27	65,472 27	Work completed.
10	Braintree . . . . .	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton . . . . .	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich . . . . .	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton . . . . .	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable . . . . .	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham . . . . .	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody . . . . .	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg . . . . .	2.797	55,940 00	55,940 00	Work completed.
19	Taunton . . . . .	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury . . . . .	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock . . . . .	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston . . . . .	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington . . . . .	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk . . . . .	2.756	19,527 75	19,527 75	Work completed.
25	Billerica . . . . .	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1 . . . . .	5.134	102,680 00	102,680 00	Work completed.
	Section 2 . . . . .	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham . . . . .	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A . . . . .	0.990	19,780 00	19,780 00	Work completed.
	Section B . . . . .	2.690	53,800 00	53,800 00	Work completed.
29	Ware . . . . .	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield . . . . .	4.206	84,120 00	67,471 47	Work completed.
31	Danvers-Peabody . . . . .	1.107	22,140 00	22,140 00	Work completed.
32	Huntington . . . . .	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A . . . . .	2.182	43,640 00	43,640 00	Work completed.
	Section B . . . . .	1.624	25,847 25	25,847 25	Work completed.
34	Dudley . . . . .	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen . . . . .	4.544	90,880 00	45,543 84	Work completed in Haverhill.
36	Eastham-Wellfleet-Truro-Provincetown:				
	Section A . . . . .	10.690	91,347 85	91,347 85	Work completed.
	Section B . . . . .	6.719	75,935 60	42,755 27	Work under way.
	Section C . . . . .	8.047	86,130 51	34,052 30	Work under way.
37	Egremont . . . . .	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers . . . . .	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanesbor-				
	ough:				
	Section A . . . . .	0.020	9,123 64	9,123 64	Work completed.
	Section B . . . . .	3.323	65,980 00	65,980 00	Work completed.
40	East Brookfield . . . . .	1.011	20,220 00	20,220 00	Work completed.
41	Ashby . . . . .	1.250	22,141 03	22,141 03	Work completed.
42	Washington . . . . .	2.291	45,820 00	45,820 00	Work completed.
43	Leicester . . . . .	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A . . . . .	1.494	29,880 00	29,880 00	Work completed.
	Section B . . . . .	1.479	50,538 14	18,411 94	Work completed.
	Section C . . . . .	3.780	82,915 42	61,859 07	Work completed.
45	Palmer:				
	Sections A and C . . . . .	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A . . . . .	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	28,375 05	Work completed.

<sup>1</sup> All of these projects are now, or will be later, State highways.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1924 — *Continued.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid Involved.	Amount received.	Remarks.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	\$39,180 00	\$39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield -Brookfield:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	41,529 22	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	60,180 00	60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	73,602 16	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.156	13,095 66	13,095 66	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	-	Work completed.
81	Deerfield . . . . .	0.710	11,537 50	-	Project sent.
83	Pembroke . . . . .	2.121	31,815 00	21,938 60	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton (Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,638 07	-	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	-	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	6,179 93	-	Work completed.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield . . . . .	1.227	25,447 12	-	0.97 miles completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
92	Bellingham . . . . .	5.250	105,000 00	-	Agreement signed.
93	Wilbraham . . . . .	0.208	87,077 51	-	Work under way.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	103,703 61	Work completed.
95	Westfield . . . . .	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham . . . . .	4.031	68,979 93	62,081 69	Work completed.
98	Sheffield . . . . .	3.052	61,133 85	54,545 52	Work completed.
99	Gloucester . . . . .	1.191	19,353 75	19,353 75	Work completed.
100	Rutland . . . . .	3.640	59,150 00	59,150 00	Work completed.
101	Hinsdale . . . . .	1.194	27,652 50	-	Project approved.
102	Plainville-Wrentham . . . . .	5.361	87,116 25	-	Project approved.
103	Adams . . . . .	0.568	9,230 00	9,230 00	Work completed.
104	Milton . . . . .	3.534	70,680 00	61,760 93	Work completed.
105	Rehoboth . . . . .	1.438	28,760 00	28,760 00	Work completed.
106	Bourne . . . . .	0.522	35,002 00	30,296 94	Work completed.
107	Southampton . . . . .	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown . . . . .	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield . . . . .	0.066	10,283 73	-	Work completed.
110	Middleborough-Bridgewater . . . . .	0.109	24,580 87	-	Work completed.
111	Braintree . . . . .	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleboro . . . . .	3.278	65,560 00	55,182 66	Work completed.
113	Swansea . . . . .	0.692	11,245 00	9,782 64	Work completed.
114	Lenox . . . . .	2.408	39,130 00	33,706 39	Work completed.
115	Plymouth . . . . .	1.680	26,472 79	23,312 55	Work completed.
116	Norwood-Walpole . . . . .	2.453	41,032 60	36,238 73	Work completed.
117A	Chelmsford . . . . .	1.377	27,540 00	-	Work completed.
117B	Chelmsford-Tyngsborough . . . . .	4.625	89,713 81	63,987 06	Work completed.
118A	Brookfield . . . . .	0.620	12,400 00	-	Agreement signed.
119A	Essex . . . . .	0.406	8,120 00	-	Work completed.
120A	Lakeville . . . . .	4.789	71,835 00	32,679 47	Work completed.
120B	Berkley . . . . .	0.864	12,960 00	-	Work completed.
121A	Abington . . . . .	0.947	18,940 00	-	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1924—*Concluded.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid Involved.	Amount received.	Remarks.
122A	Barnstable . . . . .	0.066	\$20,583 14	-	Work completed.
123A	Southampton . . . . .	2.461	51,041 82	\$24,152 64	Work completed.
124A	Wayland . . . . .	0.189	33,460 76	16,025 75	Work completed.
125A	Wareham . . . . .	3.086	72,305 23	23,192 77	Work under way.
127A	Holyoke . . . . .	4 136	62,040 00	-	Work under way.
128A	Hinsdale . . . . .	0.066	9,391 38	-	Work completed.
129A	Dighton and Somerset . . . . .	3.465	51,975 00	-	Work under way.
130A	Auburn and Oxford . . . . .	4.208	63,120 00	6,347 05	Work under way.
131A	Wilbraham . . . . .	0.530	7,950 00	-	Work completed.
133A	North Andover . . . . .	0.615	9,225 00	-	Work under way.
134A	Barre . . . . .	1.217	18,255 00	-	Work completed.
135A	Russell . . . . .	0.557	13,919 60	-	Work under way.
136A	Agawam . . . . .	1.331	19,965 00	-	Work under way.
137A	Sheffield . . . . .	0.170	22,710 05	-	Work under way.
137B	Sheffield . . . . .	0.171	13,264 21	-	Work under way.
138A	Chester . . . . .	0.097	13,735 72	-	Work under way.
139A	Brimfield . . . . .	0.103	8,472 58	-	Work under way.
145A	Ashland and Holliston . . . . .	3.330	49,950 00	-	Project sent.
Totals . . . . .		359.987	\$6,578,264 60	\$5,207,022 54	

## BRIDGES.

During the year the Division has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:—

## BRIDGES BUILT OR CONTRACTED FOR.

*Cities and Towns, Locality and Character of Structure.*

Amherst, College Avenue over Fort River, 35-foot span reinforced concrete beam.  
 Ashland, Myrtle Street over Sudbury River, Two bridges, reinforced concrete beam, one 25-foot span and one 16-foot span.  
 Barnstable, South Road over Bumps River, Two 28-foot spans, reinforced concrete beam.  
 Brimfield, Palmer Road over Elbow Brook, 20.25-foot span, reinforced concrete beam.  
 Chelmsford, Boston Road over Russell Pond, 9-foot span, reinforced concrete slab.  
 Chester, Jacob's Ladder Road over Walker Brook, 38-foot reinforced concrete beam.  
 Dighton, Taunton-Fall River Road over Muddy Cove, 15-foot reinforced concrete beam.  
 Hinsdale, Dalton Road over Housatonic River, 34-foot reinforced concrete beam.  
 Holyoke, Northampton Road over Brook, 10-foot reinforced concrete slab.  
 Lawrence, Den Rock Road over Shawsheen River, 30-foot reinforced concrete beam.  
 Methuen, Black North Road over Bartlett's Brook, 13.5-foot reinforced concrete slab.  
 Palmer-Monson, Fay Bridge over Quaboag River, Two 45.5-foot spans, reinforced concrete beam..  
 Russell, Huntington Road over Black Brook, 40-foot reinforced concrete beam.  
 Sheffield, Ashley Falls Road over Konkapot Brook, Five span, reinforced concrete beam viaduct, 140 feet total span.  
 Sheffield, Ashley Falls Road over Housatonic River, 100-foot pony steel truss.  
 Southampton, College Road over Manhan River, 50-foot reinforced concrete beam.  
 Townsend, Lunenburg Road over Canal, 15.5-foot reinforced concrete beam.  
 Townsend, Lunenburg Road over Squannacook River, Two 30.5-foot spans, reinforced concrete beam.  
 Wareham, State highway cut-off over Parker Mills Pond, 30-foot reinforced concrete beam.  
 Warwick, Cut-off over Gales Brook, 14-foot reinforced concrete slab.  
 Wayland, Boston-Worcester Road over Sudbury River, Two 41-foot spans, reinforced concrete beam.  
 West Stockbridge, Haas Bridge over Williamsville River, 43.5-foot span reinforced concrete beam.



- Williamstown, Cold Spring Road over Hemlock Brook, 35-foot reinforced concrete beam.
- Williamstown, Cold Spring Road over Hemlock Brook, 30-foot reinforced concrete beam.
- Williamstown, Cold Spring Road over Hemlock Brook, 30-foot reinforced concrete beam.

#### ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES COMPLETED IN 1924.

##### *Towns, Locality and Character of Work.*

- Dighton, Taunton-Fall River Road over Segreganset River, 16.25-foot span extension of reinforced concrete beam.
- Hinsdale, Dalton Road over Brook, Alteration and extension of I-beam solid floor.
- Lee, Springfield-Pittsfield Road over Greenwater Pond Brook, 19.75-foot span extension of reinforced concrete beam.
- Seekonk, Fall River Road over Runnins River, 16-foot span reinforced concrete extension and alteration of stone arch.

#### CONTEMPLATED BRIDGES AND STRUCTURES.

##### *Plans, Studies or Estimates made.*

##### *Towns, Locality and Character of Structure.*

- Amherst, Over Brook, 15-foot span reinforced concrete beam.
- Amherst, Over Mill River, 34-foot span reinforced concrete beam.
- Conway, Over South River, 40-foot reinforced concrete beam.
- Conway, Over South River, 40-foot reinforced concrete beam.
- Conway, Over South River, 40-foot reinforced concrete beam.
- Conway, Over South River, 45-foot reinforced concrete beam.
- Conway, Over South River, 45-foot reinforced concrete beam.
- East Brookfield, Lake Lashaway, 18-foot reinforced concrete beam.
- Leicester, Pleasant Street, over French River, 15-foot extension of stone arch.
- Mattapoisett, Over Herring River, 20.5-foot reinforced concrete beam.
- Newbury, Over Parker River (Oldtown), One 110-foot and two 95-foot spans, reinforced concrete arch.
- Northbridge, Over Blackstone River, Two 35-foot spans, reinforced concrete beam.
- Paxton, Over Turkey Hill Brook, 12-foot reinforced concrete slab.
- Swansea, Fall River-Taunton Road over Coles River, 52-foot reinforced concrete beam.
- Swansea-Somerset, Fall River-Taunton Road over Lees River, 52-foot reinforced concrete beam.
- Wareham, Over Agawam River, 30-foot span reinforced concrete beam.
- Westminster, Over Branch of Nashua River, 40-foot reinforced concrete beam.
- Westminster, Over Branch of Nashua River, Two 32-foot spans, reinforced concrete beam.
- Westminster, Gardner Road, Branch of Nashua River, 40-foot reinforced concrete beam.
- West Springfield, 1905 State highway over Boston and Albany Railroad, Plate girder.
- Williamsburg, Goshen Road over Mill River, 41.31-foot reinforced concrete beam.
- Winchendon, Over Millers River, 20-foot reinforced concrete beam.
- Winchendon, Over Millers River, 24-foot reinforced concrete beam.

##### *Examinations, Reports, Estimates, etc., at Request of Cities and Towns.*

##### *Cities and Towns, Locality and Character of Work.*

- Ashland, Homer Avenue over Cold Spring Brook, Examination of 20-foot span wooden bridge.
- Ashland, Myrtle Street over Sudbury River, Examination of 14-foot span wooden bridge.
- Ashland, Myrtle Street over Sudbury River, Examination of two span wooden bridge, 8.5-foot and 13.5-foot spans.

- Athol, Gage Road over Millers River, Examination of 100.5-foot span wooden truss. Approximate estimates made for strengthening.
- Athol, Starrett's Bridge over Millers River, Examination of 63.5-foot span pony steel truss. Approximate estimate made for reconstruction.
- Auburn, Auburn Street over Branch of Blackstone River, Plans, estimate and specifications for 30-foot span reinforced concrete beam.
- Auburn, Southbridge Road over New York, New Haven and Hartford Railroad, Examination of Pony truss bridge.
- Barre, New Braintree Road over Pratt Brook, Plans, estimate and specifications for 12.25-foot span reinforced concrete slab.
- Blandford, Perkins Bridge over Pebble Brook, Examination of 24-foot span I-beam, plank floor. Approximate estimate made for reconstruction.
- Blandford, Blotz Bridge over Tiffany's Brook, Examination of 24-foot span I-beam, plank floor. Approximate estimate made for widening.
- Carlisle-Bedford, Over Concord River, Two 140-foot spans, through steel truss, plank floor. Approximate estimate made for replacing floor system.
- Concord, Acton Road over Sudbury River, Examination of three 25-foot span stone arch.
- Danvers, Liberty Street over Porter River, Examination of 17.8-foot span wooden and steel stringers.
- Dartmouth, Apponagansett River, Examination. Approximate estimate made for repairs to stone piers and abutments.
- Dartmouth, Little River, Examination of 60-foot span pony steel truss. Approximate estimate made for reconstruction.
- Deerfield, Stillwater Bridge over Deerfield River, Examination of 380-foot span wire cable suspension bridge.
- Easthampton, Mt. Tom Bridge over Ox Bow, Connecticut River, Examination of 138-foot span through steel truss.
- Enfield, Ware Road over Swift River, Examination of two 49.5-foot span through pony wrought-iron truss. Estimates made for repairs or reconstruction.
- Grafton, Over Quinsigamond River, Examination of 15-foot span stone arch.
- Greenfield, Nash's Mills Bridge over Cherry Rum Brook, Examination. Approximate estimate made for repairs.
- Greenwich, Prescott Road over Brook, Plans, estimate and specifications for 13-foot span reinforced concrete slab.
- Hadley, Bay Road over Fort River, Examination of 90-foot iron truss.
- Huntington, Indian Hollow Road over Little River, Plans and estimates of wooden pile or framed bents for four spans at 55.5 feet.
- Huntington, Pitcher Bridge over Westfield River, Examination of 139-foot span iron truss bridge. Advice on repairs.
- Leicester, Pleasant Street over French River, Approximate estimate made for widening 15-foot span stone arch bridge.
- Mansfield, Standard design furnished for wooden bridge.
- Mendon, Bellingham Street over Mill River, Examination of 24-foot span wooden bridge. Approximate estimate made for concrete bridge.
- Millbury, Greenwood Street over Blackstone River, Examination of 28-foot span wooden pony truss. Approximate estimate made for repairs or reconstruction.
- Millbury, Greenwood Street over Dry Channel, Examination of 28-foot span wooden pony truss. Approximate estimate made for repairs or reconstruction.
- New Salem, Over Swift River, Advice on reconstruction of timber bridge.
- Southwick, South Longyard Road, Approximate estimate made of cost of reconstruction of two bridges with approaches.
- Southwick, Loomis Street over Munn Brook, Examination. Approximate estimate made for repairs or reconstruction.
- Stockbridge, South River over Housatonic River, Plans, estimate and specifications for two span, reinforced concrete beam bridge, 97.55 feet long.
- Upton, Mendon Road over West Brook Branch of West River, Examination of 17.6-foot span wooden bridge. Approximate estimates made for reconstruction.
- Warren, Crossman's Bridge over Quaboag River, Examination of 69-foot span pony wrought iron truss. Approximate estimates made for reconstruction.



- Wendell, Near Farley Depot, Examination of 21-foot span wooden pony truss. Approximate estimates made for reconstruction.
- Winthrop-Boston, Main Street over Belle Isle Inlet, Examination of wooden pile bridge 200 feet long.
- Worcester, West Boylston Street, Examination of sketch of 75-foot span reinforced concrete arch.
- Worcester, West Boylston Street, Examination of present 66.5-foot span deck lattice bridge.

*Examinations, Reports, Estimates, etc., at Request of Other Departments.*

*Cities and Towns, Locality and Character of Work.*

- Boston, State House, West Wing, Design of Mezzanine Floor for Commission on Administration and Finance.
- Ayer-Shirley, Over Nashua River, Report on strength at request of United States Government.
- Ayer-Shirley, Over Mulpus Brook, Report on strength at request of United States Government.

*Other Examinations and Reports.*

*Cities and Towns, Locality and Subject.*

- Amherst, South Pleasant Street, Examination of 15-foot span I-beam, plank floor.
- Amherst, North Pleasant Street, Examination of 30-foot span I-beam, plank floor.
- Bridgewater-Middleborough, Titicut Bridge, Estimate of work to be done on uncompleted contract.
- Cheshire, Hoosac River, Examination.
- Cheshire, Kitchen Brook, Examination.
- Fall River-Somerset, Brightman Street, Estimate made for replanking draw span.
- Gill, Undavilla Brook, Examination of 18-foot span, half through plate girder. Approximate estimate made for repairs.
- Lanesborough, 1911 State highway layout over Boston and Albany Railroad, Examination of plans for three span reinforced concrete beam.
- Lenox, Over Little River, Examination.
- Mattapoisett, Fairhaven Road, Examination of 20-foot span I-beam, jack arch, solid floor.
- Newbury, Over Parker River, Examination of eight span through pony steel truss. Inspection and report on movement in piers.
- Newburyport, Newburyport Bridge, Estimate made for replanking and repairs.
- Northbridge, Quaker Bridge over Blackstone River, Approximate estimates made for alternate designs.
- Southampton, Over Manhan River, Examination of 49.7-foot span pony steel truss.
- Westminster, Gardner Road, Examination of three wooden bridges. Also estimate made on repairs.
- West Springfield, Boston and Albany Railroad Bridge No. 103.72, Examination of 30-foot span I-beam, plank floor.
- Williamstown, State Highway Station 190+, Examination of 43-foot span pony steel truss.

*Bridge Plans Submitted and Approved during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313, Acts of 1923.*

*Cities and Towns, Location, Character of Work and Date of Approval.*

- Adams, Pleasant Street over Hoosac River, 45.8-foot reinforced concrete beam, approved Aug. 12, 1924.
- Amesbury, Coomb's Corner over branch of Powow River, 38.3-foot I-beam, solid floor, approved Nov. 18, 1924.
- Amesbury, High Street over Powow River, Two span I-beam, plank floor, 59.5 feet long, approved Oct. 7, 1924.
- Brockton, Belmont Street over Salisbury Brook, 23-foot span reinforced concrete slab, approved June 10, 1924.



- Cohasset, Border Street over Gulf River, 80-foot reinforced concrete arch, approved Aug. 12, 1924.
- Fitchburg, Townsend Street over Baker Brook, 27.5-foot I-beam, solid floor, approved Oct. 28, 1924.
- Holyoke, Cabot Street over First Level Canal, Three span deck girder concrete slab, 107.3 feet long, approved Aug. 26, 1924.
- Holyoke, Cabot Street over Second Level Canal, Two span deck girder concrete slab, 110 feet long, approved July 1, 1924.
- Medford, Harvard Avenue over Mystic River, 29.3-foot I-beam, solid floor, approved Aug. 12, 1924.
- Norfolk, Miller Street over Mill River, 16-foot I-beam, solid floor, approved July 15, 1924.
- Northampton, Kennedy Road over Roberts Meadow Brook, 32-foot I-beam, concrete jack arches, approved Aug. 26, 1924.
- Northampton, West Farms Bridge over Parsons Brook, 12-foot I-beam, concrete jack arches, approved Aug. 26, 1924.
- Northampton, Cook's Dam Bridges over Mill River, 66-foot reinforced concrete arch and 27-foot I-beam, concrete jack arches. No approval during the year.
- Northampton, West Street over Mill River, Two 56-foot spans, reinforced concrete arches, approved Nov. 11, 1924.
- North Adams, Over Hoosac River, 85-foot steel truss.
- Northbridge, Quaker Street over Blackstone River, Two span stone arch 78 feet long, approved July 1, 1924.
- Springfield, Boston and Albany Railroad Bridge No. 94.00, Berkshire Avenue, 66-foot deck girder, solid floor.
- Springfield-West Springfield, North End Bridge over Connecticut River. Seven span deck truss 1,180 feet long, approved Apr. 22, 1924.
- Westfield, New York, New Haven and Hartford Railroad Bridge No. 1.13 Southampton Road, Widening of stone arch, 29-foot span.
- Worcester, Middle Road over Middle River, Truss, three spans at 75 feet each, approved Aug. 5, 1924.
- Worcester, Stafford Street over Kettle Brook, 19-foot span steel I-beam, solid floor, approved Sept. 10, 1924.

#### BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the bridge shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1924, was 228. In 1921 they amounted to 312; in 1922 to 276; and in 1923 to 288.

The total expenditures during the year ending Nov. 30, 1924, were \$7,498.25.

The total expenditures from 1912 to Nov. 30, 1924, inclusive, were \$110,398.58.

#### BRIDGE OVER TAUNTON GREAT RIVER BETWEEN FALL RIVER AND SOMERSET.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and of operating the draw and maintaining the bridge shall be paid by the Commonwealth.

The reconstruction of the fender piers under a contract with Frank C. Taylor of New Bedford, work on which was begun last year, was completed on Jan. 5, 1924.

The number of draw openings during the year ending Nov. 30, 1924, was 2,948. In 1921 they amounted to 2,387; in 1922 to 2,083; and in 1923 to 2,258.

The total expenditures during the year ending Nov. 30, 1924, were \$18,266.17.

The total expenditures from 1912 to Nov. 30, 1924, inclusive, were \$215,170.66.

## CONSTRUCTION OF TOWN AND COUNTY WAYS.

(Section 34, chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921.)

During the year the Division has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties: —

COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length Con- tracted for (Feet).
	State.	Town.	County.		
<i>Barnstable County.</i>					
Barnstable . . . . .	\$10,000 00	\$10,000 00	\$10,000 00	Bituminous concrete . . . . .	4,543
Bourne . . . . .	4,000 00	4,000 00	4,000 00	Bituminous concrete . . . . .	2,090
Chatham . . . . .	1,500 00	4,000 00	1,500 00	Bituminous concrete . . . . .	2,100
Harwich . . . . .	6,000 00	6,000 00	6,000 00	Bituminous concrete . . . . .	6,950
Mashpee . . . . .	7,500 00	—	5,000 00	Bituminous concrete . . . . .	2,500
Sandwich . . . . .	10,000 00	10,000 00	10,000 00	Bituminous concrete . . . . .	8,500
<i>Berkshire County.</i>					
Alford . . . . .	500 00	500 00	500 00	Gravel . . . . .	900
Egremont . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,550
Hancock . . . . .	2,000 00	—	2,000 00	Gravel . . . . .	1,500
Hancock . . . . .	500 00	500 00	—	Repairs and oiling . . . . .	26,400
Mount Washington . . . . .	500 00	500 00	500 00	Gravel . . . . .	450
New Marlborough . . . . .	3,000 00	1,000 00	2,000 00	Gravel . . . . .	3,750
New Marlborough . . . . .	500 00	500 00	—	Gravel . . . . .	450
New Marlborough . . . . .	1,000 00	2,000 00	1,000 00	Gravel . . . . .	1,350
Peru . . . . .	500 00	500 00	500 00	Gravel . . . . .	500
Richmond . . . . .	2,000 00	1,000 00	—	Gravel . . . . .	550
Richmond . . . . .	1,000 00	—	—	Gravel . . . . .	250
Richmond . . . . .	400 00	400 00	—	Repairs and oiling . . . . .	10,800
Savoy . . . . .	2,500 00	—	2,500 00	Gravel . . . . .	1,423
Stockbridge . . . . .	20,000 00	10,000 00	—	Bituminous macadam . . . . .	3,200
Tyringham . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	550
Washington . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	950
West Stockbridge . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,350
West Stockbridge . . . . .	2,500 00	2,500 00	—	Bituminous macadam . . . . .	640
West Stockbridge . . . . .	6,000 00	8,000 00	—	Bridge and approaches . . . . .	—
Williamstown . . . . .	1,000 00	2,000 00	—	Gravel . . . . .	500
Windsor . . . . .	500 00	500 00	500 00	Gravel . . . . .	450
<i>Bristol County.</i>					
Acushnet . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,190
Acushnet . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	225
Berkley . . . . .	1,500 00	1,500 00	—	Repairs and oiling . . . . .	33,205
Dartmouth . . . . .	5,000 00	5,000 00	—	Bituminous macadam . . . . .	2,550
Easton . . . . .	5,000 00	5,000 00	—	Bituminous macadam . . . . .	1,150
Fairhaven . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	3,000
Freetown . . . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam . . . . .	1,086
Rehoboth . . . . .	4,000 00	4,000 00	4,000 00	Waterbound macadam . . . . .	2,295
Rehoboth . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,575
Seekonk . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,770
Swansea . . . . .	3,000 00	6,000 00	3,000 00	Bituminous macadam . . . . .	2,600
<i>Dukes County.</i>					
West Tisbury . . . . .	20,000 00	5,000 00	10,000 00	Bituminous concrete . . . . .	13,425
<i>Essex County.</i>					
Boxford . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,200
Boxford . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	6,100
Danvers . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	2,950
Essex . . . . .	2,500 00	2,500 00	—	Repairs and oiling . . . . .	25,460
Georgetown . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,500
Groveland . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,996
Marblehead . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	3,150
Newbury . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,600
Rockport . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,040
Rowley . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	1,430
Saugus . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . . . .	3,143
Topsfield . . . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . . . .	20,100
West Newbury . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,028
<i>Franklin County.</i>					
Ashfield . . . . .	2,000 00	1,500 00	500 00	Gravel . . . . .	1,850
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	1,250
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	1,300
Buckland . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	2,600
Buckland . . . . .	2,000 00	2,000 00	500 00	Gravel . . . . .	1,900
Charlemont . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	700
Conway . . . . .	2,500 00	2,000 00	500 00	Gravel . . . . .	3,125
Deerfield . . . . .	1,250 00	1,250 00	500 00	Bituminous macadam . . . . .	900
Gill . . . . .	12,000 00	—	4,000 00	Gravel . . . . .	2,434
Monroe . . . . .	1,500 00	1,500 00	500 00	Gravel . . . . .	3,000
New Salem . . . . .	3,000 00	—	1,000 00	Gravel . . . . .	1,940
Orange . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	2,500



COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length Con- tracted for (Feet).
	State.	Town.	County.		
Franklin County — Con.					
Orange . . . . .	\$1,000 00	\$1,000 00	\$500 00	Gravel . . . . .	1,750
Rowe . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,450
Shelburne . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	2,600
Shelburne . . . . .	2,000 00	1,000 00	500 00	Gravel . . . . .	1,425
Shutesbury . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	2,800
Shutesbury . . . . .	300 00	200 00	—	Gravel . . . . .	300
Sunderland . . . . .	500 00	500 00	500 00	Gravel . . . . .	800
Warwick . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	950
Warwick . . . . .	1,200 00	800 00	—	Gravel . . . . .	700
Wendell . . . . .	500 00	500 00	500 00	Gravel . . . . .	700
Whately . . . . .	3,000 00	3,000 00	500 00	Bituminous macadam . . . . .	1,700
Hampden County.					
Blandford . . . . .	5,000 00	1,000 00	5,000 00	Gravel . . . . .	29,568
Brimfield . . . . .	2,000 00	—	2,000 00	Gravel . . . . .	13,728
Chester . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	900
Chester . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,400
East Longmeadow . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	4,500
Granville . . . . .	2,000 00	500 00	2,000 00	Gravel . . . . .	1,650
Hampden . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	3,550
Ludlow . . . . .	2,500 00	5,000 00	2,500 00	Bituminous gravel . . . . .	8,000
Russell . . . . .	2,000 00	—	2,000 00	Bituminous macadam . . . . .	700
Tolland . . . . .	1,000 00	500 00	1,000 00	Grading . . . . .	800
Wilbraham . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	2,350
Hampshire County.					
Amherst-Pelham . . . . .	60,000 00	30,000 00	30,000 00	Bituminous macadam . . . . .	16,734
Belchertown . . . . .	6,000 00	6,000 00	2,000 00	Gravel . . . . .	7,946
Belchertown . . . . .	45,000 00	15,000 00	20,000 00	Bituminous macadam . . . . .	9,487
Chesterfield . . . . .	6,000 00	1,000 00	2,000 00	Gravel . . . . .	3,450
Easthampton . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	950
Goshen . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,023
Greenwich . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	2,000
Hatfield . . . . .	6,000 00	6,000 00	4,000 00	Bituminous macadam . . . . .	4,000
Pelham . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,450
Prescott . . . . .	1,000 00	400 00	500 00	Gravel . . . . .	700
Middlesex County.					
Acton . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,000
Ashby . . . . .	800 00	800 00	800 00	Repairs and oiling . . . . .	18,480
Ashland . . . . .	2,500 00	2,500 00	5,200 00	Two bridges and approaches . . . . .	—
Bedford . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,200
Bedford . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,440
Boxborough . . . . .	400 00	400 00	400 00	Repairs and oiling . . . . .	23,232
Boxborough . . . . .	800 00	800 00	800 00	Gravel . . . . .	1,000
Burlington . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,250
Burlington . . . . .	1,600 00	1,600 00	—	Repairs and oiling . . . . .	26,347
Carlisle . . . . .	500 00	500 00	500 00	Gravel . . . . .	1,200
Chelmsford . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	1,700
Chelmsford . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,830
Chelmsford . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	7,800
Chelmsford . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	12,000
Draeut . . . . .	3,000 00	5,000 00	3,000 00	Repairs . . . . .	42,200
Dunstable . . . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . . . .	36,432
Framingham . . . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . . . .	2,560
Groton . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	4,900
Holliston . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	4,000
Hopkinton . . . . .	4,000 00	4,000 00	4,000 00	Waterbound macadam . . . . .	2,150
Hudson . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,000
Lincoln . . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . . . . .	4,200
Littleton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Littleton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,300
Littleton . . . . .	800 00	800 00	800 00	Repairs and oiling . . . . .	21,120
Maynard . . . . .	3,500 00	3,500 00	3,500 00	Bituminous macadam . . . . .	1,900
Maynard . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	4,200
Natick . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,370
North Reading . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	48,840
Pepperell . . . . .	700 00	700 00	700 00	Gravel . . . . .	1,150
Pepperell . . . . .	700 00	700 00	700 00	Repairs and oiling . . . . .	14,250
Sherborn . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,600
Sherborn . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Shirley . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,500
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	5,300
Sudbury . . . . .	2,100 00	2,600 00	2,100 00	Repairs and oiling . . . . .	46,464
Tewksbury . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	3,700
Townsend . . . . .	2,500 00	6,500 00	2,500 00	Two bridges and approaches . . . . .	—
Tyngsborough . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Tyngsborough . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	23,760
Tyngsborough . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Wakefield . . . . .	2,250 00	4,500 00	2,250 00	Bituminous macadam . . . . .	1,285
Wakefield . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,600
Wayland . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	57,024
Westford . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	45,900
Wilmington . . . . .	2,000 00	2,000 00	2,000 00	Waterbound macadam . . . . .	1,500
Wilmington . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	10,000



COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length Con- tracted for (Feet).
	State.	Town.	County.		
<i>Nantucket County.</i>					
Nantucket . . . . .	\$3,500 00	\$3,500 00	-	Bituminous concrete . . . . .	1,400
<i>Norfolk County.</i>					
Bellingham . . . . .	2,000 00	1,000 00	\$2,000 00	Gravel . . . . .	3,050
Bellingham . . . . .	10,000 00	5,000 00	5,000 00	Gravel . . . . .	23,800
Bellingham . . . . .	500 00	500 00	500 00	Gravel . . . . .	650
Canton . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . . . .	3,900
Foxborough . . . . .	10,000 00	15,000 00	10,000 00	Bituminous macadam . . . . .	4,890
Franklin . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	3,700
Holbrook . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	1,700
Medfield . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,050
Medfield . . . . .	500 00	500 00	500 00	Gravel . . . . .	1,415
Medfield . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	16,632
Medway . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,000
Medway . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	15,956
Millis . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	19,700
Norfolk . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,000
Norfolk . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	21,648
Randolph . . . . .	8,333 00	8,334 00	8,333 00	Bituminous macadam . . . . .	2,760
Sharon . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	1,900
Stoughton . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,700
Walpole . . . . .	5,000 00	10,000 00	5,000 00	Bituminous concrete . . . . .	2,650
Westwood . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . . . .	3,500
<i>Plymouth County.</i>					
Carver . . . . .	4,500 00	4,500 00	2,500 00	Bituminous concrete . . . . .	5,900
Carver . . . . .	1,500 00	3,000 00	1,500 00	Bituminous concrete . . . . .	2,250
Duxbury . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	6,550
East Bridgewater . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	4,200
East Bridgewater . . . . .	2,000 00	3,000 00	2,000 00	Gravel . . . . .	7,650
Hanson . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,400
Kingston . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	5,450
Lakeville . . . . .	2,500 00	10,000 00	2,500 00	Bituminous macadam . . . . .	2,450
Mattapoisett . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	3,981
Middleborough . . . . .	15,000 00	15,000 00	-	Bituminous macadam . . . . .	6,532
Norwell . . . . .	2,000 00	500 00	2,000 00	Waterbound macadam . . . . .	1,050
Pembroke . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	5,900
Plymouth . . . . .	16,000 00	11,000 00	6,000 00	Bituminous concrete . . . . .	7,905
Plympton . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	3,250
Rockland . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	6,000
West Bridgewater . . . . .	1,500 00	1,500 00	1,500 00	Bituminous concrete . . . . .	650
<i>Worcester County.</i>					
Barre . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,150
Berlin . . . . .	4,200 00	3,200 00	4,200 00	Bituminous macadam . . . . .	4,500
Bolton . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	11,700
Boylston . . . . .	20,000 00	6,666 00	13,333 00	Bituminous macadam . . . . .	5,500
Boylston . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	38,016
Brookfield . . . . .	500 00	500 00	500 00	Gravel . . . . .	2,400
Dana . . . . .	1,500 00	700 00	1,500 00	Gravel . . . . .	1,950
Dudley . . . . .	800 00	800 00	-	Repairs and oiling . . . . .	13,522
Grafton . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	2,850
Grafton . . . . .	20,000 00	20,000 00	20,000 00	Cement concrete . . . . .	4,800
Harvard . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,350
Hubbardston . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,100
Lunenburg . . . . .	5,000 00	-	5,000 00	Bituminous macadam . . . . .	3,500
Mendon . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,900
Milford . . . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . . . .	3,182
Millbury . . . . .	4,000 00	4,000 00	-	Repairs and oiling . . . . .	7,080
New Braintree . . . . .	7,000 00	2,200 00	7,000 00	Bituminous macadam . . . . .	2,800
Northborough . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	,1800
Oxford . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,998
Petersham . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	3,250
Phillipston . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,600
Princeton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Princeton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,050
Royalston . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,200
Rutland . . . . .	500 00	500 00	500 00	Gravel . . . . .	550
Rutland . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	24,575
Spencer . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	3,600
Sterling . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,400
Sturbridge . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	17,434
Templeton . . . . .	3,500 00	3,500 00	3,500 00	Gravel . . . . .	1,775
Templeton . . . . .	6,500 00	3,500 00	3,500 00	Bituminous macadam . . . . .	1,019
West Boylston . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	2,487
Westborough . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4000
Westminster . . . . .	3,000 00	2,000 00	3,000 00	Gravel . . . . .	2,950

The expenditures during the year in various counties were: —

Barnstable, \$63,314.30  
 Berkshire, \$128,934.42  
 Bristol, \$64,474.18

Dukes, \$22,104.57  
 Essex, \$82,373.07  
 Franklin, \$78,400.90

Hampden, \$138,529.26  
 Hampshire, \$140,478.91  
 Middlesex, \$168,854.05  
 Nantucket, \$5,823.79

Norfolk, \$109,974.14  
 Plymouth, \$100,876.36  
 Worcester, \$212,433.92  
 Total, \$1,316,571.87

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$9,607.93; Bourne, \$8,356.46; Chatham, \$1,249.22; Harwich, \$6,364.35; Mashpee, \$10,977.51; Sandwich, \$21,161.55; Yarmouth, \$5,597.28.

*Berkshire County.* — Adams, \$6,699.32; Alford, \$558.28; Blandford, \$5,582.75; Cheshire, \$2,229.54; Egremont, \$1,116.55; Hancock, \$2,791.38; Hinsdale, \$7,763.33; Lanesborough, \$10,638.81; Monterey, \$6,081.50; Mt. Washington, \$558.28; New Marlborough, \$5,023.92; Otis, \$7,182.51; Peru, \$7,424.61; Richmond, \$3,783.68; Sandisfield, \$6,830.92; Savoy, \$2,791.38; Stockbridge, \$37,983.73; Tyringham, \$1,116.55; Washington, \$1,116.55; West Stockbridge, \$9,986.00; Williamstown, \$1,116.55; Windsor, \$558.28.

*Bristol County.* — Acushnet, \$6,699.32; Berkley, \$1,674.83; Dartmouth, \$5,582.76; Easton, \$10,801.45; Fairhaven, \$9,667.09; Freetown, \$4,466.21; Rehoboth, \$11,165.53; Seekonk, \$10,965.90; Swansea, \$3,451.09.

*Dukes County.* — West Tisbury, \$22,104.57.

*Essex County.* — Amesbury, \$1,298.09; Andover, \$558.28; Boxford, \$2,232.97; Danvers, \$8,039.18; Essex, \$2,783.13; Georgetown, \$2,233.11; Groveland, \$5,136.14; Marblehead, \$5,719.72; Merrimac, \$3,221.57; Newbury, \$2,233.11; Rockport, \$34,263.93; Rowley, \$558.28; Saugus, \$8,512.79; Topsfield, \$3,349.66; West Newbury, \$2,233.11.

*Franklin County.* — Ashfield, \$5,582.75; Buckland, \$4,466.21; Charlemont, \$1,116.55; Conway, \$8,374.14; Deerfield, \$1,395.47; Gill, \$12,291.02; Monroe, \$3,341.85; New Salem, \$3,349.52; Orange, \$2,791.38; Rowe, \$1,116.55; Shelburne, \$4,466.21; Shutesbury, \$1,451.52; Sunderland, \$558.28; Warwick, \$24,191.51; Wendell, \$558.28; Whately, \$3,349.66.

*Hampden County.* — Brimfield, \$3,669.48; Chester, \$2,233.11; East Longmeadow, \$4,466.22; Granville, \$3,349.66; Hampden, \$5,582.19; Holyoke, \$7,892.99; Longmeadow, \$1,264.82; Ludlow, \$2,791.38; Russell, \$2,233.11; Tolland, \$1,116.55; Wilbraham, \$103,929.75.

*Hampshire County.* — Amherst, \$70,219.99; Belchertown, \$31,699.71; Chesterfield, \$6,698.94; Easthampton, \$4,214.46; Goshen, \$1,116.56; Greenwich, \$1,116.24; Hatfield, \$6,699.32; Middlefield, \$6,256.20; Pelham, \$2,214.17; Prescott, \$1,116.55; Worthington, \$9,126.77.

*Middlesex County.* — Acton, \$11,165.53; Arlington, \$11,112.50; Ashby, \$893.24; Ashland, \$2,233.11; Ayer, \$1,116.55; Bedford, \$4,464.94; Billerica, \$5,359.45; Boxborough, \$1,339.86; Burlington, \$3,728.10; Carlisle, \$558.28; Chelmsford, \$13,395.28; Dracut, \$4,019.59; Dunstable, \$1,953.97; Framingham, \$6,966.42; Groton, \$3,349.66; Holliston, \$2,791.38; Hopkinton, \$4,466.21; Hudson, \$5,582.76; Lincoln, \$8,374.14; Littleton, \$3,126.35; Maynard, \$6,771.06; Natick, \$11,109.70; North Reading, \$1,339.86; Pepperell, \$1,563.17; Reading, \$3,746.55; Sherborn, \$2,233.11; Shirley, \$5,613.99; Sudbury, \$6,754.55; Tewksbury, \$4,466.21; Townsend, \$2,505.87; Tyngsborough, \$2,791.38; Wakefield, \$5,657.27; Wayland, \$4,466.21; Westford, \$4,455.04; Weston, \$6,810.97; Wilmington, \$2,571.79.

*Nantucket County.* — Nantucket, \$5,823.79.

*Norfolk County.* — Bellingham, \$13,956.91; Canton, \$10,602.06; Foxborough, \$9,548.27; Franklin, \$4,466.21; Holbrook, \$6,105.38; Medfield, \$3,907.93; Medway, \$4,131.24; Millis, \$1,878.10; Norfolk, \$3,461.31; Randolph, \$14,550.96; Sharon, \$4,986.99; Stoughton, \$16,091.59; Walpole, \$5,024.48; Westwood, \$8,131.69; Wrentham, \$3,131.02.

*Plymouth County.* — Carver, \$6,692.72; Duxbury, \$5,582.42; East Bridgewater, \$5,988.17; Hanson, \$4,354.55; Kingston, \$5,582.76; Mattapoisett, \$6,699.32; Middleborough, \$12,124.36; Norwell, \$2,009.79; Pembroke, \$5,481.67; Plymouth, \$16,748.29; Plympton, \$5,247.80; Rockland, \$11,165.53; West Bridgewater, \$13,198.98.

*Worcester County.* — Ashburnham, \$949.47; Barre, \$5,104.32; Berlin,



P.D. 54. 31  
 \$4,689.52; Bolton, \$1,116.55; Boylston, \$21,808.53; Brookfield, \$558.28; Dana, \$1,674.83; Dudley, \$865.60; Grafton, \$30,197.16; Harvard, \$6,278.74; Holden, \$111.66; Hubbardston, \$1,116.55; Lunenburg, \$8,820.76; Mendon, \$1,116.55; Milford, \$11,414.54; Millbury, \$4,301.17; New Braintree, \$7,788.87; Northborough, \$12,270.30; Oxford, \$5,582.75; Petersham, \$3,349.42; Princeton, \$2,791.38; Phillipston, \$2,233.11; Royalston, \$1,887.82; Rutland, \$5,834.81; Shrewsbury, \$5,582.76; Spencer, \$8,316.64; Sterling, \$2,233.11; Sturbridge, \$1,116.55; Sutton, \$8,183.25; Templeton, \$19,979.35; West Boylston, \$2,791.38; West Brookfield, \$6,991.11; Westborough, \$10,584.77; Westminster, \$4,792.31.

## REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1921, and by chapter 281, Acts of 1922.)

During the year the Division has contracted for work to be done in the towns named in the following table, which also shows the allotments or contributions by the State and towns:—

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Barnstable County:			
Brewster . . . . .	49	\$3,675 00	\$3,675 00
Dennis . . . . .	79	5,925 00	5,925 00
Eastham . . . . .	39	2,925 00	1,950 00
Harwich . . . . .	74	5,550 00	7,400 00
Mashpee . . . . .	47	3,525 00	1,880 00
Sandwich . . . . .	61	4,575 00	4,575 00
Truro . . . . .	62	4,650 00	2,480 00
Wellfleet . . . . .	35	2,625 00	3,500 00
Berkshire County:			
Alford . . . . .	20	1,500 00	800 00
Becket . . . . .	60	4,500 00	3,000 00
Cheshire . . . . .	42	3,150 00	4,200 00
Egremont . . . . .	31	2,325 00	3,100 00
Florida . . . . .	42	3,150 00	4,200 00
Hancock . . . . .	30	2,250 00	1,500 00
Hinsdale . . . . .	36	2,700 00	2,700 00
Lanesborough . . . . .	39	2,925 00	2,925 00
Monterey . . . . .	52	3,900 00	2,080 00
Mount Washington . . . . .	20	1,500 00	800 00
New Ashford . . . . .	9	675 00	360 00
New Marlborough . . . . .	85	6,375 00	4,250 00
Otis . . . . .	53	3,975 00	1,325 00
Peru . . . . .	37	2,775 00	555 00
Richmond . . . . .	36	2,700 00	1,800 00
Sandisfield . . . . .	87	6,300 00	1,260 00
Savoy . . . . .	56	4,200 00	840 00
Sheffield . . . . .	74	5,550 00	5,550 00
Tyringham . . . . .	25	1,875 00	1,875 00
Washington . . . . .	51	3,825 00	765 00
West Stockbridge . . . . .	38	2,850 00	2,850 00
Windsor . . . . .	66	4,950 00	990 00
Bristol County:			
Berkley . . . . .	43	3,225 00	2,150 00
Freetown . . . . .	49	3,675 00	4,900 00
Norton . . . . .	57	4,275 00	7,125 00
Raynham . . . . .	44	3,300 00	4,400 00
Rehoboth . . . . .	106	7,950 00	5,300 00
Swansea . . . . .	46	3,450 00	6,900 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Dukes County:			
Edgartown . . . . .	39	\$2,925 00	\$5,850 00
Essex County:			
Boxford . . . . .	51	3,825 00	3,825 00
Georgetown . . . . .	34	2,550 00	4,250 00
Groveland . . . . .	30	2,250 00	4,500 00
Merrimac . . . . .	30	2,250 00	5,250 00
Middleton . . . . .	28	2,100 00	3,500 00
Rowley . . . . .	30	2,250 00	3,750 00
West Newbury . . . . .	37	2,775 00	3,700 00
Franklin County:			
Ashfield . . . . .	82	6,150 00	3,280 00
Bernardston . . . . .	41	3,075 00	2,050 00
Charlemont . . . . .	50	3,750 00	2,500 00
Colrain . . . . .	87	6,525 00	6,525 00
Conway . . . . .	76	5,700 00	3,040 00
Gill . . . . .	36	2,700 00	2,700 00
Hawley . . . . .	49	3,675 00	735 00
Heath . . . . .	54	4,050 00	1,350 00
Leverett . . . . .	38	2,850 00	1,520 00
Leyden . . . . .	41	3,075 00	1,025 00
Monroe . . . . .	18	1,350 00	1,800 00
New Salem . . . . .	64	4,800 00	1,600 00
Northfield . . . . .	72	5,400 00	5,400 00
Rowe . . . . .	41	3,075 00	1,025 00
Shutesbury . . . . .	40	3,000 00	1,600 00
Sunderland . . . . .	34	2,550 00	3,400 00
Warwick . . . . .	56	4,200 00	2,240 00
Wendell . . . . .	47	3,525 00	3,525 00
Whately . . . . .	41	3,075 00	3,075 00
Hampden County:			
Blandford . . . . .	83	6,225 00	3,320 00
Brimfield . . . . .	60	4,500 00	3,000 00
Chester . . . . .	66	4,950 00	3,300 00
East Longmeadow . . . . .	32	2,400 00	5,600 00
Granville . . . . .	75	5,625 00	3,000 00
Hampden . . . . .	34	2,550 00	1,700 00
Holland . . . . .	30	2,250 00	450 00
Monson . . . . .	110	8,250 00	8,250 00
Montgomery . . . . .	28	2,100 00	700 00
Southwick . . . . .	50	3,750 00	5,000 00
Tolland . . . . .	42	3,150 00	1,050 00
Wales . . . . .	25	1,875 00	1,250 00
Wilbraham . . . . .	42	3,150 00	7,350 00
Hampshire County:			
Belchertown . . . . .	112	8,400 00	4,480 00
Chesterfield . . . . .	58	4,350 00	1,450 00
Cummington . . . . .	49	3,675 00	1,225 00
Enfield . . . . .	37	2,775 00	2,775 00
Goshen . . . . .	28	2,100 00	1,120 00
Granby . . . . .	46	3,450 00	3,450 00
Greenwich . . . . .	39	2,925 00	1,950 00
Huntington . . . . .	39	2,925 00	3,900 00
Middlefield . . . . .	36	2,700 00	900 00
Pelham . . . . .	40	3,000 00	2,000 00
Plainfield . . . . .	48	3,600 00	720 00
Prescott . . . . .	39	2,925 00	975 00

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Hampshire County — <i>Concluded.</i>			
Southampton . . . . .	64	\$4,800 00	\$2,560 00
Westhampton . . . . .	48	3,600 00	1,200 00
Williamsburg . . . . .	42	3,150 00	4,200 00
Worthington . . . . .	71	5,325 00	1,775 00
Middlesex County:			
Acton . . . . .	57	4,275 00	7,125 00
Ashby . . . . .	57	4,275 00	4,275 00
Ashland . . . . .	38	2,850 00	6,650 00
Boxborough . . . . .	23	1,725 00	1,150 00
Carlisle . . . . .	41	3,075 00	2,050 00
Dunstable . . . . .	38	2,850 00	1,900 00
Holliston . . . . .	47	3,525 00	8,225 00
Hopkinton . . . . .	66	4,950 00	6,600 00
Lincoln . . . . .	39	2,925 00	5,850 00
Littleton . . . . .	42	3,150 00	5,250 00
North Reading . . . . .	28	2,100 00	4,200 00
Sherborn . . . . .	46	3,450 00	5,750 00
Shirley . . . . .	44	3,300 00	6,600 00
Stow . . . . .	45	3,375 00	4,500 00
Townsend . . . . .	65	4,875 00	6,500 00
Tyngsborough . . . . .	35	2,625 00	2,625 00
Wilmington . . . . .	43	3,225 00	7,525 00
Norfolk County:			
Bellingham . . . . .	41	3,075 00	5,125 00
Medfield . . . . .	40	3,000 00	7,000 00
Medway . . . . .	43	3,225 00	7,525 00
Norfolk . . . . .	41	3,075 00	4,100 00
Plainville . . . . .	33	2,475 00	4,950 00
Wrentham . . . . .	44	3,300 00	5,500 00
Plymouth County:			
Carver . . . . .	67	5,025 00	6,700 00
Halifax . . . . .	32	2,400 00	3,200 00
Hanson . . . . .	34	2,550 00	5,950 00
Lakeville . . . . .	45	3,375 00	4,500 00
Norwell . . . . .	48	3,600 00	4,800 00
Pembroke . . . . .	47	3,525 00	4,700 00
Plympton . . . . .	34	2,550 00	1,700 00
Rochester . . . . .	48	3,600 00	3,600 00
West Bridgewater . . . . .	41	3,075 00	6,150 00
Worcester County:			
Ashburnham . . . . .	77	5,775 00	5,775 00
Berlin . . . . .	39	2,925 00	2,925 00
Bolton . . . . .	53	3,975 00	2,650 00
Boylston . . . . .	40	3,000 00	2,000 00
Brookfield . . . . .	36	2,700 00	3,600 00
Charlton . . . . .	110	8,250 00	5,500 00
Dana . . . . .	45	3,375 00	1,800 00
Douglas . . . . .	70	5,250 00	7,000 00
Harvard . . . . .	56	4,200 00	5,600 00
Holden . . . . .	77	5,775 00	7,700 00
Hubbardston . . . . .	75	5,625 00	3,750 00
Lunenburg . . . . .	65	4,875 00	4,875 00
Mendon . . . . .	36	2,700 00	2,700 00
New Braintree . . . . .	49	3,675 00	1,960 00
Northborough . . . . .	47	3,525 00	5,875 00
Oakham . . . . .	45	3,375 00	1,800 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Worcester County — <i>Concluded.</i>			
Paxton . . . . .	32	\$2,400 00	\$1,600 00
Petersham . . . . .	71	5,325 00	5,325 00
Phillipston . . . . .	41	3,075 00	1,640 00
Princeton . . . . .	72	5,400 00	3,600 00
Royalston . . . . .	67	5,025 00	3,350 00
Rutland . . . . .	68	5,100 00	3,400 00
Sterling . . . . .	72	5,400 00	5,400 00
Sturbridge . . . . .	79	5,925 00	3,950 00
Sutton . . . . .	85	6,375 00	6,375 00
Upton . . . . .	59	4,425 00	4,425 00
West Boylston . . . . .	34	2,550 00	4,250 00
West Brookfield . . . . .	65	4,875 00	4,875 00
Westminster . . . . .	77	5,775 00	3,850 00

The expenditures during the year, in various counties were: —

Barnstable, \$44,706.00	Hampden, \$48,953.09
Berkshire, \$91,534.82	Hampshire, \$66,351.57
Bristol, \$31,511.53	Middlesex, \$69,266.58
Dukes, \$2,405.04	Norfolk, \$20,461.68
Essex, \$11,079.22	Plymouth, \$42,257.70
Franklin, \$81,726.87	Worcester, \$162,755.80
	Total, \$673,009.90

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$3,833.04; Dennis, \$9,272.51; Eastham, \$3,-184.58; Harwich, \$5,918.67; Mashpee, \$3,949.25; Sandwich, \$10,738.15; Truro, \$4,874.07; Wellfleet, \$2,935.73.

*Berkshire County.* — Alford, \$1,875.94; Becket, \$5,116.56; Blandford, \$9,328.46; Cheshire, \$3,551.75; Egremont, \$2,529.80; Florida, \$3,197.44; Hancock, \$2,966.62; Hinsdale, \$3,385.89; Lanesborough, \$2,984.32; Monterey, \$4,662.40; Mt. Washington, \$1,406.86; New Ashford, \$760.97; New Marlborough, \$7,354.56; Otis, \$4,903.11; Peru, \$3,028.37; Richmond, \$3,043.89; Sandisfield, \$5,404.17; Savoy, \$3,670.98; Sheffield, \$7,126.23; Tyringham, \$1,965.66; Washington, \$4,555.01; West Stockbridge, \$3,320.73; Windsor, \$5,395.10.

*Bristol County.* — Berkley, \$3,635.75; Freetown, \$4,143.07; Norton, \$4,819.49; Raynham, \$6,061.71; Rehoboth, \$8,962.55; Swansea, \$3,888.96.

*Dukes County.* — Edgartown, \$2,405.04.

*Essex County.* — Boxford, \$3,969.27; Groveland, \$2,209.64; Middleton, \$559.58; Rowley, \$2,536.57; West Newbury, \$1,804.16.

*Franklin County.* — Ashfield, \$6,482.35; Bernardston, \$3,410.28; Charlemont, \$3,945.78; Colrain, \$7,186.95; Conway, \$6,536.45; Gill, \$2,959.34; Hawley, \$4,143.07; Heath, \$3,917.59; Leverett, \$4,255.80; Leyden, \$3,630.69; Monroe, \$1,607.36; New Salem, \$5,636.83; Northfield, \$5,580.46; Rowe, \$3,494.83; Shutesbury, \$3,551.20; Sunderland, \$2,931.15; Warwick, \$4,987.95; Wendell, \$3,917.59; Whately, \$3,551.20.

*Hampden County.* — Brimfield, \$5,039.50; Chester, \$5,543.46; East Longmeadow, \$2,621.12; Granville, \$5,777.75; Hampden, \$2,959.33; Monson, \$10,-690.19; Montgomery, \$2,551.20; Southwick, \$4,255.80; Tolland, \$4,160.39; Wales, \$2,225.91; Wilbraham, \$3,128.44.

*Hampshire County.* — Belchertown, \$9,047.10; Chesterfield, \$4,813.93; Cummington, \$4,143.07; Enfield, \$2,762.04; Goshen, \$2,311.10; Granby, \$3,692.12; Greenwich, \$3,353.72; Huntington, \$3,249.16; Middlefield, \$2,471.02; Pelham, \$3,776.67; Plainfield, \$4,058.51; Prescott, \$3,128.44; Southampton, \$5,438.72; Westhampton, \$3,748.49; Williamsburg, \$3,663.94; Worthington, \$6,693.54.

*Middlesex County.* — Acton, \$4,622.20; Ashby, \$4,706.70; Ashland, \$3,184.81; Boxborough, \$2,480.20; Carlisle, \$3,607.57; Dunstable, \$4,643.14; Holliston,

\$4,199.43; Hopkinton, \$6,510.53; Lincoln, \$3,466.65; Littleton, \$3,748.49; North Reading, \$4,283.99; Sherborn, \$3,889.40; Shirley, \$3,833.04; Stow, \$3,917.59; Townsend, \$5,524.09; Tyngsborough, \$2,873.24; Wilmington, \$3,775.51.

*Norfolk County.* — Bellingham, \$3,466.65; Medfield, \$3,382.10; Medway, \$3,635.75; Norfolk, \$3,466.65; Plainville, \$2,790.23; Wrentham, \$3,720.30.

*Plymouth County.* — Carver, \$6,115.24; Halifax, \$2,657.36; Hanson, \$2,874.78; Lakeville, \$5,231.37; Norwell, \$4,058.52; Pembroke, \$8,394.85; Plympton, \$5,729.27; Rochester, \$3,889.42; West Bridgewater, \$3,306.89.

*Worcester County.* — Ashburnham, \$7,934.71; Berlin, \$4,524.16; Bolton, \$4,852.71; Boylston, \$3,940.82; Brookfield, \$2,973.99; Charlton, \$9,876.54; Dana, \$3,716.42; Douglas, \$5,552.86; Harvard, \$4,736.29; Holden, \$6,902.17; Holland, \$2,536.57; Hubbardston, \$6,669.51; Lunenburg, \$6,310.07; Mendon, \$3,976.03; New Braintree, \$4,825.13; Northborough, \$4,980.96; Oakham, \$4,062.98; Paxton, \$2,705.68; Petersham, \$6,003.22; Phillipston, \$3,891.40; Princeton, \$7,388.40; Royalston, \$5,665.01; Rutland, \$5,749.56; Sterling, \$6,727.56; Sturbridge, \$7,384.97; Sutton, \$7,691.39; Upton, \$5,494.80; West Boylston, \$3,161.45; West Brookfield, \$4,932.22; Westminster, \$7,588.22.

## CONTRACTS FOR THE RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF AN APPROPRIATION.

In Nov., 1924, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$950,000, this amount being twenty-five per cent of the appropriation of \$3,800,000 for the fiscal year ending Nov. 30, 1924. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 26, 1924.

## STATE AID IN KEEPING CERTAIN HIGHWAYS OPEN DURING THE WINTER MONTHS.

In accordance with chapter 3, Resolves of 1923, providing for an investigation by the Division of Highways into the question of snow and ice removal from highways, the Division filed its preliminary report under date of April 16, 1923 (printed as Senate No. 366), and its final report under date of Nov. 15, 1923 (printed as House No. 42 of 1924). The filing of this preliminary report was followed by the passage of chapter 482, Acts of 1923.

The expenditure during the year ending Nov. 30, 1924, was \$54,360.10.

## REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1923-1924.

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, the Division adopted on Feb. 12 1924 regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain state highways during the season. These regulations were in effect in the following counties during the periods stated: —

Barnstable, Bristol and Plymouth Counties, March 3 to March 31; Norfolk County, March 3 to April 16; Essex, Hampden, Middlesex and Worcester Counties, March 10 to April 16; Berkshire, Franklin and Hampshire Counties, March 17 to May 3.

## REGULATION OF THE TRANSPORTATION OF PERSONAL PROPERTY OVER PUBLIC WAYS BY MOTOR VEHICLES.

Chapter 457, Acts of 1924 amended chapter 90, General Laws, as follows: —

“SECTION 31A. The division after a public hearing may make, and may alter, rescind or add to, rules and regulations for the reasonable and proper control and regulation of the transportation by motor vehicle of personal property over the



ways of this commonwealth, except ways under the control of the metropolitan district commission. Said rules and regulations shall cover, among other matters which division may deem necessary or desirable, the fixing of routes with respect to the physical capacity of such ways to carry traffic; the establishment of the maximum weight of loads per commercial motor vehicle and per inch of tire in contact with the surface of such ways; the maximum dimensions of loads; and the regulation of the rate of speed of such vehicles over such ways. Said rules and regulations and any changes therein shall be subject to approval, and shall take effect, in the manner provided by section six of chapter sixteen. Any person convicted of a violation of any rule or regulation made under this section shall be punished by a fine of not more than twenty-five dollars, and in case of a second or subsequent offence the registration of the vehicle or vehicles involved shall be suspended for such length of time as the division may determine."

Under date of Nov. 21, 1924, the Division adopted the following Rules and Regulations, to be in force on and after Jan. 1, 1925.

*Marking and Certificate.* — The owner of every motor vehicle carrying personal property shall have the owner's name plainly marked on each side of the body of such vehicle, and the owner of every such vehicle shall have its weight without load in pounds and its registered carrying capacity in tons of 2,000 pounds, plainly marked on each side of the body near to the driver's seat in letters and figures not less than three-fourths of an inch in height.

The operator of every motor vehicle carrying personal property shall carry a certificate of its weight signed by a sworn weigher, which shall upon request be open to the inspection of any police officer or any inspector or other person duly designated and authorized by this Division, and every such vehicle shall be reweighed immediately after any change is made which affects its weight when unloaded and shall be re-marked accordingly.

*Loads.* — The operator of every motor vehicle carrying personal property beyond the limits of any one city or town, excepting those licensed as hawkers and peddlers under chapter 101 of the General Laws and operators of such vehicles engaged in the retail delivery of goods, shall carry a bill of lading or memorandum setting forth the weight of the load of such vehicle.

*Limit of Loads on Certain Ways.* — No person shall operate a motor vehicle carrying personal property on any way in the County of Barnstable, County of Dukes County or County of Nantucket except while such way is under construction, nor on any way in any other county not under the control of the Metropolitan District Commission, which may from time to time be designated and posted by this Division, the weight of which with its load is in excess of five hundred pounds per inch width of tire in contact with the way or in excess of twenty thousand pounds, except when operating such motor vehicle under authority of a permit issued under section 30 of chapter 85 of the General Laws, as amended.

*Carrying Capacity.* — No person shall operate a motor vehicle carrying personal property on any way nor under the control of the Metropolitan District Commission when the weight of the load exceeds the carrying capacity for which such vehicle is registered, except when operating such motor vehicle under authority of a permit issued under section 30 of chapter 85 of the General Laws, as amended.

*Speed.* — No person shall operate a motor vehicle carrying personal property on any way not under the control of the Metropolitan District Commission at a speed in excess of fifteen miles per hour if its registered carrying capacity is over two tons, or in excess of twenty miles per hour if its registered carrying capacity is two tons or less.

*Posting.* — The Division may post any ways upon which the weight of motor vehicles and loads is limited by these rules and regulations.

The penalty for a violation of these rules and regulations is set forth in chapter 457 of the Acts of 1924.

WARNING SIGNS OR LIGHTS AT CERTAIN DANGEROUS PLACES  
ON STATE HIGHWAYS.

Chapter 428, Acts of 1924, amended chapter 81, General Laws, by inserting after section nineteen the following new section:—

“SECTION 19A. The division shall erect at or near such crossings, underpasses and bridges on state highways as in its opinion are dangerous, suitable signs or lights to warn persons using the same at night of the danger.

SECTION 2. For the purposes of the foregoing section the division may expend during the current year such sum, not exceeding three thousand dollars, as may be hereafter appropriated by the general court.”

In accordance with the provisions of this act, flashlight signals have been erected at the following new locations:—

In Palmer, 4 signals at the approaches to the narrow underpass under the Boston and Albany Railroad; in Oxford, 2 signals at approaches to the underpass under the New York, New Haven and Hartford Railroad; in Walpole, 2 signals at the approach to the bridge over the New York, New Haven and Hartford Railroad; in Easton, 2 signals at the approach to the grade crossing of the New York, New Haven and Hartford Railroad; in Marshfield, 1 signal at the approach to the bridge over the New York, New Haven and Hartford Railroad.

The total amount expended under this act is \$2,587.60.

## TRAFFIC COUNT.

The design of public highways, their types, widths, grades and alignment, as well as their construction and maintenance, are largely dependent upon the amount and character of the traffic to be accommodated. As early as 1909, the Massachusetts Highway Commission commenced recording by actual count the amount and character of traffic over the more important highways throughout the State. Since that time such records have been made every three years.

The traffic count in the present year, in comparison with the data of previous years, indicates important developments in vehicular travel. Seventy-six observation stations were chosen this year as important points in the highway system, sixty-three of which were identical with those of the count made in 1921, thus providing a fair basis for studying the recent developments in travel on the highways. It appears from this comparison that the total number of vehicles recorded in 1924 at these sixty-three like stations was almost exactly twice the number recorded in 1921. In addition to the stations selected on the State highways, data was obtained also for a number of stations in the metropolitan district at points selected by the Division of Metropolitan Planning.

The previous counts have included many stations that were not used throughout these studies. Eighteen like stations have been included in all the traffic counts, which furnish a proper basis for comparison of developments in the longer period. The counts of 1921 and 1924 were made in the latter part of August, covering a period of one week. In the four previous counts data was obtained in August and October, but for comparison only the August figures are used, and consequently the conclusions are only for summer travel. Trucks and busses were not noted in 1909, but beginning in 1912 the records show that their use has increased until in 1924 they amounted to 9% of the vehicles counted.

The maximum traffic was in the eastern part of the State, as would be expected, near the most populous sections, and particularly on the highways leading to the seashore resorts, such as Nantasket and Revere Beaches. On the routes to the South shore the traffic rapidly diminishes as the distance from Boston increases. On the North shore routes the traffic radiates from the cities and extends toward the beach resorts of Gloucester, Cape Ann and Salisbury.

The trunk line routes across the State, — one from Boston through Worcester to Springfield, and the other via Fitchburg and Greenfield leading to the Mohawk Trail, as well as the Connecticut Valley routes, — indicate large volumes of traffic.

In the western part of the State, in Berkshire county, the records show that



the average travel per station for those chosen was the lowest of all the districts in the State, yet the percentage increase over the count made in 1921 for the seven like stations was the greatest, due to the improved roads constructed within the past few years. The Lenox-Pittsfield highway, however, ranks well in number of vehicles with the routes across the State. The maximum traffic in this part of the State occurs late in September and early October, when a count would show marked increases in comparison with the August count when the shore traffic is at its height.

The comparison of records and deductions for the eighteen like stations used in all the traffic counts shows that the average number of vehicles per day passing a station has increased remarkably at each successive count. In 1909 the average number of vehicles per station per day was 270; in 1912, 430 vehicles; in 1915, 760 vehicles; in 1918, 1,180 vehicles; in 1921, 1,950 vehicles; and in 1924, 3,721 vehicles.

Some of the principal figures of interest in the 1924 count are as follows: —

Number of observation stations on State highways . . . . .	76
Total of the daily average number of vehicles passing all stations . . . . .	259,102
Classified as:	
(1) Automobiles . . . . .	232,208
(2) Trucks . . . . .	23,754
(3) Motor busses . . . . .	896
(4) Motor cycles . . . . .	2,244
Registration classification:	
(5) Automobiles	
(a) Mass. registration . . . . .	194,376
(b) Outside Mass. registration . . . . .	37,836
(6) Trucks	
(c) Mass. registration . . . . .	22,640
(d) Outside Mass. registration . . . . .	1,114
Maximum daily average number of vehicles passing a station (Fellsway, South of Revere Beach Parkway, Metropolitan Park Boulevard)	17,715
Daily average per station for the 18 like stations . . . . .	3,721

Cars bearing out-of-state registrations were most numerous at points located near the State boundaries and on the main highways leading to the large cities. According to the 1924 traffic count, in Berkshire county 41% of the automobiles were of out-of-state registrations; the figures for Franklin and Hampden counties being 27%; and for Worcester county, 17%. For the whole State, as indicated by the 76 stations, the out-of-state cars were 16% of the total. For auto truck and motor bus traffic the figures are, — Berkshire county, 11%; and for Franklin and Hampden counties, 9%. In the rest of the State the percentage decreased toward the eastern part, with less than 1% for Plymouth and Barnstable counties.

On a particular route, such as the Boston-Providence highway, 18% of the automobiles counted at Wrentham were out-of-state cars, and at Dedham the proportion was 11%; 15% of the trucks were in the same classification. On the Lowell-Manchester (N. H.) highway at Tyngsborough, 44% of the motor trucks were out-of-state trucks, and on the portion of this route at Tewksbury, 14% were out-of-state trucks. For the entire State only 5% of the trucks counted were not of Massachusetts registration.

The method of making the traffic count was as follows:—observers were engaged to record all vehicles passing each observation station for fourteen hours a day (7 A.M. to 9 P.M.) for seven consecutive days beginning Aug. 24, 1924. Card records were made to indicate the number of vehicles passing, their types and whether or not of Massachusetts registration. This data was later tabulated and computations were made to show the total daily average number of vehicles passing each station, as well as the average number of motor cycles, passenger cars and trucks, together with the percentages of each class.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN  
THE PUBLIC VIEW.

(Sections 29-33, Chapter 93, General Laws as amended.)

*Legislation.* — By chapter 85, Acts of 1924, section 32 of chapter 93, General Laws was amended and prohibits advertising signs or devices on certain structures of or used by common carriers. By chapter 327, Acts of 1924, section 29 of said chapter 93 was amended in relation to the regulation of billboards, etc., by cities and towns.

By chapter 334, Acts of 1924, section 30 of said chapter 93 was amended by striking out, in the ninth and tenth lines, the words "then existing", and by inserting after the word "let" in the thirteenth line the words "and which contain no other advertising matter."

By chapter 490, Acts of 1924, said chapter 93 was amended by inserting after section 30 a new section, as follows: "Section 30A. Any billboard, sign or other device erected after August twentieth, nineteen hundred and twenty, without the authorization or permit of the division in cases where such authorization or permit is required or maintained after said date in violation of any rule or regulation of the division shall be deemed a nuisance. Said division shall have the same power to abate and remove any such nuisance as is given to the board of health of a town under sections one hundred and twenty-three to one hundred and twenty-five, inclusive, of chapter one hundred and eleven, and the provisions of said sections shall, so far as applicable, apply in the case of a nuisance as herein defined. The remedy herein provided shall be in addition to any other remedy provided by law."

*Rules and Regulations.* — Jan. 24, 1924, the Division adopted the following new rules and regulations, superseding those previously adopted in 1920 and 1921.

*Applications, Licenses and Permits.* — From April 1, 1921 to Nov. 30, 1924, applications for permits to the number of 13,536 were received. From Dec. 1, 1923 to Nov. 30, 1924, the applications amounted to 615, of which 275 were approved and permits granted for the erection of advertising signs.

The total number of permits granted from Apr. 1, 1921 to Nov. 30, 1924, for the maintenance of outdoor advertising signs was 6,939, and from Dec. 1, 1923 to Nov. 30, 1924, was 386.

The total number of permits cancelled up to Nov. 30, 1924 by advertisers, for the reason that the use of certain locations could not be continued, was 1,178.

On Nov. 30, 1924, the number of permits in force was 1,293.

Applications to the number of 456, for the erection of new signs where the locations would be in violation of the rules and regulations of 1924 aforesaid, were disapproved by the division; also 103 applications for the erection of such signs, for reasons other than a violation of such rules and regulations with respect to size, and location from the highway.

Of the number of permits which by the terms thereof were to expire July 1, 1924, 4,811 were returned to the division for renewal and 1,073 returned with the request that they be cancelled.

The division also disapproved 3,751 applications for renewal, as the size of the sign or its location with respect to its distance from the highway would be in violation of the rules and regulations of 1924 aforesaid.

Applications for renewal of permits to the number of 1,054 were approved by the division to be in force until June 30, 1925.

During the year 47 individuals and others were granted licenses to engage in the business of advertising by means of outdoor advertising signs.

*Removal of Signs.* — The division, acting under the provisions of chapter 490, Acts of 1924 aforesaid, ordered various owners of property and signs to abate as a nuisance any signs which had been erected since Aug. 20, 1920, in violation of existing rules and regulations.

*Ordinances and By-Laws.* — The following towns submitted drafts of by-laws which were approved by the division: Amherst, Concord, Grafton, Great Barrington, Sharon, Sudbury, Wayland and Winchester.



The receipts for the year ending Nov. 30, 1923 were \$16,424.05, and the expenditures for the same period were \$9,249.66.

The receipts for the year ending Nov. 30, 1924 were \$15,921.47, and the expenditures for the same period were \$8,518.36.

## RULES AND REGULATIONS FOR THE CONTROL AND RESTRICTION OF BILLBOARDS, SIGNS AND OTHER ADVERTISING DEVICES.

### SECTION 1. LICENSES.

A. No person, firm, association or corporation shall engage in the business of outdoor advertising in this Commonwealth by means of billboards, signs or other advertising devices without first obtaining a License therefor from the Division of Highways of the Department of Public Works, hereinafter referred to as the Division.

B. Applications for Licenses shall be made on forms furnished by the Division and shall be accompanied by a fee of fifty (50) dollars.

C. Licenses granted under the provisions of this section shall be in force for one year from their date unless sooner revoked by the Division.

D. Applications for the renewal of Licenses granted under the provisions of this section shall be made not later than thirty (30) days prior to the date of expiration and shall be accompanied by a fee of fifty (50) dollars.

E. The Division reserves the right to revoke any License granted by it under the provisions of this section.

### SECTION 2. PERMITS TO PERSONS ENGAGED IN CARRYING ON THE BUSINESS OF OUTDOOR ADVERTISING.

A. No person, firm, association or corporation engaged in carrying on the business of outdoor advertising shall post, erect, display or maintain within public view from any highway, public park or reservation any billboard, sign or other advertising device, except as hereinafter provided.

B. No billboard, sign or other advertising device shall be posted, erected or displayed on any property until the consent of the owner thereof, or the tenant has been obtained, and an application filed with the Division, together with a sketch showing the exact location, and a Permit therefor has been granted by the Division.

C. Applications and sketches under this section shall be made on forms furnished by the Division.

D. Upon receipt by the Division of an application for a Permit to post, erect or maintain a billboard, sign or other advertising device under this section, notice thereof and a copy of the application will be sent by the Division to the city or town where such billboard, sign or other advertising device is to be located. If the city or town objects to the location it shall, within thirty (30) days from the date of said notice, file with the Division its objections, in writing, and thereupon the Division will notify the applicant, who will be allowed ten (10) days from the date of such notice to file reasons, if any, why a Permit should be granted. A hearing may be given by the Division before final action is taken upon such application.

E. Every billboard and sign erected under this section shall bear the number of the Permit authorizing its erection, and such number shall be painted in figures not less than two and one-half ( $2\frac{1}{2}$ ) inches in height, upon and in the following named parts of such billboards and signs: Poster Boards, — on the top moulding, at the left hand end. Painted Boards, — in the lower left hand corner. Signs erected on a single post, — on the face of the post under the sign.

F. Applications for Permits under this section shall be accompanied by a fee of two (2) dollars, to be known as the examination fee. Upon the issuance of a Permit an additional fee of two (2) dollars, to be known as the inspection fee, shall be paid by the permittee within ten (10) days from the date of the permit.

G. All Permits granted under this section shall expire June 30 next following the date thereof, unless sooner revoked by the Division.

H. Application for the renewal of a Permit granted under this section shall

be made not later than thirty (30) days prior to the expiration of such Permit, and shall be accompanied by a fee of two (2) dollars, to be known as the renewal fee. Upon the issuance of a Permit in renewal an additional fee of two (2) dollars to be known as the renewal inspection fee, shall be paid by the permittee within ten (10) days from the date of the receipt of the Permit in renewal.

I. The Division reserves the right to revoke for cause a Permit granted by it under the provisions of this section.

J. All billboards, signs or other advertising devices erected under the provisions of this section shall be removed within ninety (90) days from the date of expiration or revocation of the Permits under which they were erected.

### SECTION 3. PERMITS TO PERSONS NOT ENGAGED IN CARRYING ON THE BUSINESS OF OUTDOOR ADVERTISING.

A. No person, firm, association or corporation not engaged in carrying on the business of outdoor advertising shall post, erect, display or maintain within public view from any highway, public park or reservation any billboard, sign or other advertising device, except as hereinafter provided.

B. No billboard, sign or other advertising device shall be posted, erected or displayed on any property until an application has been filed with the Division, a Permit therefor granted by the Division, and the consent of the owner thereof, or the tenant, has been obtained.

C. Applications under this section shall be made on forms furnished by the Division.

D. Permits granted under this section may be either permanent or temporary: —

(1) Permanent Permits may be granted under the various provisions of Section 2.

(2) Temporary Permits may allow the posting, erection, display or maintenance of signs or other advertising devices for such period as the Division may prescribe. A fee of one (1) dollar will be charged for Permits issued under this section, with an additional charge of one cent for a period of thirty (30) days for every seven (7) square feet or fraction thereof, provided, however, that signs or other advertising devices under seven (7) square feet in area shall be considered as having an area of seven (7) square feet for the purpose of computing the additional charge to be made under the Permit, and only one sign or other advertising device containing the same advertising matter shall be placed on the same structure. The locations for all signs or other advertising devices to be erected or posted under the provisions of this section, shall be subject to approval by the Mayor and Aldermen, if in a city, and the Board of Selectmen, if in a town.

E. All signs or other advertising devices posted, erected, displayed or maintained under a temporary Permit shall be removed by the permittee not later than fourteen (14) days from the expiration of such Permit.

F. The Division reserves the right to revoke for cause a Permit issued by it under the provisions of this section.

### SECTION 4. LOCATIONS.

A. No outdoor advertising will be permitted within the limits of any public way except as provided in Section 8 of Chapter 85 of the General Laws.

B. No Permits will be issued for outdoor advertising in any location which is within three hundred (300) feet of any public park or reservation, if within view of any portion of the same, except that the Division may grant Permits for the maintenance of billboards, signs or other advertising devices in any such location, which may be for a period not later than June 30, 1925; and may also grant Permits for the location of electrical display signs on buildings in any such location, under such restrictions as the Division may impose.

C. No outdoor advertising shall be painted or affixed upon any rock or tree.

No outdoor advertising shall be painted or affixed upon any fence or pole within fifty (50) feet of any public way nor directly on the wall of any building.



## SECTION 5. CHARACTER, SIZE AND MAINTENANCE.

A. All billboards, signs or other advertising devices shall be of such dimensions and material as the Division may prescribe.

B. The Division reserves the right to require the permittee to remove from any billboard, sign or other advertising device any matter displayed thereon which, in the opinion of the Division, is objectionable.

C. No renewal Permit will be granted for the further maintenance of any billboard, sign or other advertising device unless the front, back, braces, anchors and lattice work thereof are painted and kept in proper condition.

D. It shall be the duty of the permittee maintaining a billboard, sign or other advertising device, to keep the same, and the ground about it, free from all rubbish or from any material used in connection therewith which, in the opinion of the Division, is objectionable.

## SECTION 6. RESTRICTIONS.

A. No Permit will be granted for the location or maintenance of billboards, signs or other advertising devices near certain public ways where, in the opinion of the Division, having regard to the health and safety of the public, the danger of fire, and the unusual scenic beauty of the territory, signs would be particularly harmful to the public welfare.

B. No Permit will be granted for the location, erection or maintenance of any billboard, sign or other advertising device within a radius of one hundred and fifty (150) feet from the point where the center lines of two or more public ways intersect. This provision shall not apply to districts which the Division may determine are of a business character.

C. No billboard, sign or other advertising device shall be erected, displayed or maintained in any block in which one-half of the buildings on both sides of the street are used exclusively for residential purposes, except that if the written consent of the owners of a majority of the frontage on both sides of the street in such block is obtained and is attached to the application for a Permit to erect, display or maintain such billboard, sign or other advertising device, the Division may permit the erection, display or maintenance of the same.

D. No Permit will be granted for the erection or maintenance of any billboard, sign or other advertising device if said billboard, sign or other advertising device is to be located:—

(1) Nearer than fifty (50) feet to the boundary line of any public way;

(2) Nearer than one hundred (100) feet to the boundary line of any public way, if within view of any portion of the same, if said billboard, sign or other advertising device exceeds an area of thirty-two (32) square feet;

(3) Nearer than three hundred (300) feet to the boundary line of any public way, if within view of any portion of the same, if said billboard, sign or other advertising device exceeds a length of twenty-five (25) feet or a height of twelve (12) feet;

(4) In any event if said billboard, sign or other advertising device exceeds a length of fifty (50) feet or a height of twelve (12) feet; except that the Division may permit the erection of billboards, signs or other advertising devices which do not exceed forty (40) feet in length and fifteen (15) feet in height if not nearer than three hundred (300) feet to the boundary line of any public way.

Provided, however, that this paragraph shall not apply to districts which the Division may determine are of a business character.

E. No Permit shall be granted for the erection of a billboard, sign or other advertising device which will, in the judgment of the Division, obstruct the visibility of another sign.

F. No billboards, signs or other advertising devices shall be located nearer to other billboards, signs or other advertising devices than fifty (50) feet, unless said billboards, signs or other advertising devices are placed back to back. Provided, however, that this provision shall not apply to districts which the Division may determine are of a business character.

## SECTION 7. REMOVALS.

All billboards, signs or other advertising devices, except those exempted by Sections 30 and 32 of Chapter 93 of the General Laws, whether erected prior to the adoption of these rules and regulations or not, unless maintained under a Permit issued pursuant thereto, shall be removed on or before the first day of July, 1925, unless the Division shall extend the time of such removal; but such time for removal shall not, in any event, be extended beyond the first day of July, 1927.

## SECTION 8. FORM OF ORDINANCE OR BY-LAW.

To the end that ordinances and by-laws of cities and towns regulating outdoor advertising shall be, as far as possible, uniform in their provisions, the Division will approve any ordinance or by-law properly adopted by any city or town which is substantially in the form following:

No person, firm, association or corporation shall erect, display or maintain a billboard, sign or other outdoor advertising device, except those exempted by Sections 30 and 32 of Chapter 93 of the General Laws, —

(a) Within fifty (50) feet of any public way;

(b) Within three hundred (300) feet of any public park, playground or other public grounds, if within view of any portion of the same;

(c) Nearer than fifty (50) feet to any other such billboard, sign or other advertising device, unless said billboards, signs or other advertising devices are placed back to back;

(d) On any location at the corner of any public ways and within a radius of one hundred and fifty (150) feet from the point where the center lines of such ways intersect;

(e) Nearer than one hundred (100) feet to any public way, if within view of any portion of the same, if such billboard, sign or other advertising device shall exceed a length of eight (8) feet or a height of four (4) feet;

(f) Nearer than three hundred (300) feet to any public way, if within view of any portion of the same, if such billboard, sign or other advertising device shall exceed a length of twenty-five (25) feet or a height of twelve (12) feet;

(g) In any event if such billboard, sign or other advertising device shall exceed a length of fifty (50) feet or a height of twelve (12) feet; except that the (Mayor and Aldermen or the Selectmen) may permit the erection of billboards, signs or other advertising devices which do not exceed forty (40) feet in length and fifteen (15) feet in height if not nearer than three hundred (300) feet to the boundary line of any public way.

(h) No billboard, sign or other advertising device shall be erected, displayed or maintained in any block in which one-half of the buildings on both sides of the street are used exclusively for residential purposes; except that this provision shall not apply if the written consent of the owners of a majority of the frontage on both sides of the street in such block is first obtained and is filed with the Division of Highways of the Department of Public Works, together with the application for a Permit for such billboard, sign or other advertising device.

(i) No billboard, sign or other advertising device shall be erected, displayed or maintained until a Permit therefor has been issued by the Division of Highways of the Department of Public Works pursuant to the following provisions: Upon receipt from said Division of a notice that application for a Permit to erect, display or maintain a billboard, sign or other advertising device within the limits of (city or town) has been received by it, the (Board of Aldermen or the Selectmen) shall hold a public hearing on said application in (city or town) notice of which shall be given by posting the same in three or more public places in said (city or town) at least one week before the date of such hearing. A written statement as to the results thereof, shall be forwarded to the Division, containing, in the event of a disapproval of such application, the reasons therefor, within thirty days from the date of notice to the (city or town) that an application for such a Permit had been made.

The provisions of (a), (c), (d), (e), (f) and (g) shall not apply to districts which



the (Mayor and Aldermen or Selectmen) may determine are of a business character. (This limitation may be omitted from Ordinances or By-Laws, if desired.)

This (Ordinance or By-Law) shall not apply to signs or other devices which advertise or indicate either the person occupying the premises in question or the business transacted thereon, or advertise the property itself or any part thereof as for sale or to let; and provided further that this (Ordinance or By-Law) shall not apply to billboards, signs or other advertising devices legally maintained, at the time of its approval by the Attorney-General, until one year from the first day of July following such approval.

Whoever violates any of the provisions of this (Ordinance or By-Law) shall be punished by a fine of not more than one hundred (100) dollars, and whoever, after conviction for such violation, unlawfully maintains such billboard, sign or other outdoor advertising device for twenty (20) days thereafter shall be punished by a fine of not more than five hundred (500) dollars.

If any provision of this (Ordinance or By-Law) is declared unconstitutional or illegal by final judgment, order or decree of the Supreme Judicial Court of the Commonwealth, the validity of the remaining provisions of this (Ordinance or By-Law) shall not be affected thereby.

### SECTION 9.

These Rules and Regulations repeal all previous Rules and Regulations made and adopted by the Division under the provisions of Section 29, Chapter 93 of the General Laws, and shall be in effect January 24, 1924.

### SALE OF MAPS.

Under authority of Section 1, Chapter 81, General Laws, as amended by section 1, Chapter 57, Acts of 1923, 159 copies of the road map of Massachusetts, edition of 1922, have been sold during the year ending Nov. 30, 1924, for which \$79.50 was received and paid into the treasury of the Commonwealth.

### RECOMMENDATIONS FOR LEGISLATION.

#### DIVISION OF HIGHWAYS.

##### *Expenditures of State Funds on Town and County Ways.*

The Division recommends that section twenty-three of chapter eighty-one of the General Laws be amended so that action by the Division shall be permissive instead of mandatory with respect to the making of allotments for certain towns; and also amended by providing that any sum so allotted shall be used for the purposes specified by the Division.

The Division also recommends that sections thirty-four of chapter ninety of the General Laws be further amended by providing that sums allotted to towns to be used on town and county ways or sums used in conjunction with the sums appropriated by the town and allotted by the county commissioners or either of them, shall be used for the purposes specified by the Division.

##### *Alteration of Location of Street Railways on State Highways.*

It appears necessary and desirable that the Division should have additional authority to issue an Order to a street railway company with respect to any necessary alteration of its location on a State highway without the written acceptance of an alteration now required under the present law, and if such company fails to comply with such Order within the time specified the Division may carry out the work at the expense of such company, such expense to be recovered in tort.

*Further to regulate the Granting of Licenses for the Sale of Crude Petroleum on Land adjoining State Highways.*

In the interests of public safety, especially for minimizing the danger resulting from the erection of buildings in certain localities on land adjoining State highways and to prevent unnecessary interference with public travel on such highways, which in some cases, is caused by motor vehicles stopping opposite to and near buildings which have been erected under permits or licenses for the keeping, storage or sale of crude petroleum or any of its products, the Division renews its recommendation of last year.



## APPENDIX.

CONTRACT PRICES DEC. 1, 1923 TO NOV. 30, 1924.

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Mas. Plain Conc. (Cu. Yd.).	BIT. SUR- FACING.		Cu. Conc. Surf. (Cu. Yd.).
		Earth (Cu. Yd.).	Borrow (Cu. Yd.).	Ledge (Cu. Yd.).		Asphalt (Gals.).	Tar (Gals.).	
Abington . . . . .	W. Rox. Trap Rock Co. . . . .	\$1 25	\$1 25	\$4 00	\$25 00	\$0 16	-	-
Agawam . . . . .	Lane Const. Corp. . . . .	1 25	-	2 00	25 00	0 15	-	\$11 50
Amherst, Pelham, Belcher- town . . . . .	Lane Const. Corp. . . . .	1 15	1 15	2 00	25 00	0 14	-	-
Ashland . . . . .	Geo. S. Allen . . . . .	1 00	1 00	4 00	18 00	-	-	-
Auburn . . . . .	Chas. A. Haggerty . . . . .	1 35	1.35	4 00	25 00	0 20	-	12 90
Ayer . . . . .	Crowley Bros. . . . .	1 15	-	-	-	0 18	-	-
Barnstable . . . . .	Luke S. White, Inc. . . . .	1 50	1 25	-	14 50	0 20	-	-
Barnstable (So.) . . . . .	Herbert L. Thomas . . . . .	1 50	1 50	2 00	20 00	0 25	-	-
Barnstable . . . . .	S. W. Laurence . . . . .	1 00	1 00	4 00	20 00	0 20	-	-
Barre . . . . .	Chas. E. Horne . . . . .	1 60	1 25	4 00	25 00	0 18	-	-
Barre . . . . .	Amos D. Bridge's Sons, Inc. . . . .	1 30	1 50	4 00	25 00	0 16	-	-
Boylston . . . . .	Chas. E. Horne . . . . .	1 20	-	4 00	25 00	0 17	-	-
Bridgewater . . . . .	Powers Bros. . . . .	1 00	1 00	3 00	20 00	0 15	-	-
Brimfield . . . . .	D'Onfro Bros., Inc. . . . .	1 00	0 90	4 00	30 00	-	-	-
Brookfield-East Brookfield . . . . .	Carlo Bianchi & Co., Inc. . . . .	1 75	1 35	2 00	25 00	0 17	-	13 25
Canton . . . . .	Reynolds Bros., Inc. . . . .	1 30	-	3 00	20 00	0 14	-	-
Chatham . . . . .	S. W. Laurence . . . . .	1 25	1 10	4 00	15 00	0 20	-	-
Chelmsford-Tyngsborough . . . . .	R. H. Newell Co. . . . .	1 40	-	6 00	25 00	0 15	-	-
Chester . . . . .	Lawrence J. Kelleher . . . . .	1 50	1 65	4 25	-	0 18	-	-
Chester . . . . .	D. W. Dwyer . . . . .	2 25	1 50	5 00	20 00	0 16	-	-
Danvers . . . . .	Welch & Moynihan . . . . .	1 35	-	5 00	25 00	0 15	-	12 00
Dighton-Somerset . . . . .	Canedy Const. Co., Inc. . . . .	1 25	1 20	6 50	20 00	0 125	-	12 50
Draut . . . . .	Antonio Pallatto . . . . .	-	-	-	-	0 14	\$0 14	-
Dudley . . . . .	C. Bianchi & Co., Inc. . . . .	1 65	-	6 00	-	-	-	14 00
East Bridgewater . . . . .	Bradford Weston . . . . .	1 25	-	5 00	20 00	-	-	-
East Bridgewater . . . . .	Adam McCordiek . . . . .	1 10	-	4 00	15 00	-	-	-
Essex-Ipswich . . . . .	Cenedella & Co. . . . .	1 30	1 30	5 00	25 00	0 16	-	-
Foxborough . . . . .	Morrell & Fiorle . . . . .	1 25	-	4 00	-	0 14½	-	-
Framingham . . . . .	Middlesex Const. Co. . . . .	1 50	1 35	5 00	25 00	0 17	-	-
Freetown . . . . .	Zebulon L. Canedy . . . . .	1 25	-	7 00	-	0 15	-	-
Freetown . . . . .	C. Bianchi & Co., Inc. . . . .	1 50	1 00	4 00	25 00	0 145	-	-
Gill . . . . .	Lawrence J. Kelleher . . . . .	1 25	1 25	4 00	25 00	-	-	-
Grafton . . . . .	Middlesex Const. Co. . . . .	1 50	1 35	5 00	25 00	-	-	12 50
Grafton . . . . .	Chas. E. Horne . . . . .	1 35	1 35	3 00	25 00	0 18	-	-
Groveland . . . . .	Greenough Const. Co. . . . .	1 50	1 20	4 00	20 00	0 15	-	-
Hanson . . . . .	Washburn & Sheridan Const. Co. . . . .	1 20	1 20	5 00	20 00	0 16	-	-
Harvard . . . . .	Greenough Const. Co. . . . .	1 35	-	5 00	20 00	0 15	-	-
Harwich . . . . .	Wm. A. Jones . . . . .	1 25	1 25	2 00	-	0 25	-	-
Haverhill . . . . .	Luigi C. Carehia . . . . .	1 50	1 50	10 00	20 00	0 18	-	13 00
Hingham . . . . .	A. W. Loud . . . . .	2 00	2 00	4 50	30 00	0 25	-	-
Hinsdale . . . . .	Hoyt Const. Co. . . . .	2 00	1 45	10 00	16 00	0 40	-	-
Holbrook . . . . .	Powers Bros. . . . .	1 40	-	5 00	-	0 14	-	-
Holyoke-Easthampton . . . . .	Daniel O'Connell's Sons . . . . .	1 40	-	3 50	26 00	0 16	-	11 75
Lakeville . . . . .	Zebulon L. Canedy . . . . .	0 85	1 00	3 00	10 00	0 14	-	-
Lakeville . . . . .	Perini & Sons, Inc. . . . .	1 60	1 25	4 50	25 00	0 18	-	13 00
Lee . . . . .	Lane Const. Corp. . . . .	0 85	-	2 00	30 00	-	-	12 00
Lenox . . . . .	C. W. Blakeslee & Sons . . . . .	1 35	-	4 50	30 00	0 21	-	12 95
Lowell-Chelmsford . . . . .	Thos. G. Jewett, Jr., Inc. . . . .	1 40	1 40	4 00	30 00	0 16	-	13 00
Lunenburg . . . . .	C. J. Sweeney . . . . .	1 25	-	4 00	25 00	-	0 15	-
Marblehead . . . . .	Rowe Contracting Co. . . . .	1 50	-	10 00	-	0.145	-	-
Marlborough . . . . .	John A. Gaffey & Son . . . . .	1 35	-	6 00	-	-	-	13 50
Mashpee-Sandwich . . . . .	Gould & Spencer . . . . .	1 25	-	4 00	25 00	-	-	-
Medway . . . . .	Wm. H. Hinman . . . . .	1 50	-	4 00	-	-	-	-
Methuen . . . . .	Thos. G. Jewett, Jr., Inc. . . . .	1 30	1 30	4 00	30 00	0 16	-	-
Methuen . . . . .	J. E. Watkins . . . . .	0 80	1 00	4 00	20 00	0 15	-	-
Middleborough . . . . .	Byron C. Jordan . . . . .	1 25	1 15	3 50	15 00	0 15	-	-
Nantucket . . . . .	Michael F. Roach . . . . .	0 90	0 95	-	-	0 20	-	-
New Braintree . . . . .	C. E. Horne . . . . .	1 40	-	3 00	25 00	0 175	-	-
Norfolk . . . . .	Washburn & Sheridan Const. Co. . . . .	1 25	-	5 00	-	-	0 18	-
N. Andover-Lawrence . . . . .	Luigi C. Carehia . . . . .	0 80	0 90	4 00	20 00	0 18	-	11 00
Norwell . . . . .	Bradford Weston . . . . .	1 25	-	5 00	20 00	-	-	-
Norwood-Walpole . . . . .	Alco Const. Co., Inc. . . . .	1 60	-	2 00	20 00	0 14	-	12 00
Orange . . . . .	Gould & Spencer . . . . .	1 50	1 60	6 00	-	0 19	-	-
Oxford . . . . .	John Laurenzi . . . . .	1 35	-	4 00	30 00	0 18	-	-
Palmer-Monson . . . . .	Carl B. Lindholm Co. . . . .	1 25	0 90	3 50	30 00	0 18	-	-
Pembroke . . . . .	Angelo Susi & Co. . . . .	1 30	1 50	2 00	20 00	0 15	-	-
Plymouth . . . . .	R. H. Newell Co. . . . .	1 25	1 25	4 00	30 00	0 17	-	-
Plymouth . . . . .	Michael F. Roach . . . . .	1 25	0 90	4 00	25 00	0 18	-	-
Plympton . . . . .	Otis R. Mann . . . . .	1 45	-	5 00	20 00	0 25	-	-
Randolph . . . . .	Powers Bros. . . . .	1 40	-	5 00	-	0 14	-	-

APPENDIX.

CONTRACT PRICES DEC. 1, 1923 TO NOV. 30, 1924.

Broken Stone (Ton).	PIPE CULVERTS (LINEAL FOOT).							Fencing (Lin. Ft.).	Stone Filling (Cu. Yd.).	Bounds (Each).	Catch Basins (Each).	Reinforced Conc. Mas. (Cu. Yd.).	Gravel Borrow (Cu. Yd.).
	CLAY.			CORR. IRON.									
	10 In.	12 In.	15 In.	12 In.	14 In.	16 In.	18 In.						
\$3 75	-	-	-	\$4 00	-	\$5 00	-	\$0 75	-	-	\$100 00.	-	\$1 25
3 25	-	\$1 50	-	2 00	-	-	-	0 75	-	\$5 00	85 00	\$30 00	-
3 00	-	1 50	\$2 00	2 00	-	-	-	0 70	\$3 00	-	100 00	40 00	1 15
-	-	-	-	-	-	-	-	0 70	-	-	-	25 00	1 75
4 00	-	-	-	-	-	-	-	0 75	-	5 00	80 00	-	1 35
4 00	-	-	-	-	-	-	-	-	-	-	-	-	-
6 00	-	-	-	-	-	-	-	0 75	-	10 00	-	41 00	-
-	-	-	-	6 00	-	-	-	0 75	-	-	100 00	-	-
-	-	-	-	2 00	-	-	-	0 75	-	-	-	-	-
4 10	-	-	-	2 00	-	-	\$3 00	1 00	2 80	-	-	35 00	1 50
4 15	\$1 75	1 75	-	-	-	-	-	-	3 00	5 00	90 00	35 00	2 00
4 38	-	-	-	-	-	-	-	-	3 00	-	-	35 00	1 15
3 10	-	1 50	-	-	-	-	-	1 00	-	-	100 00	-	1 25
-	-	-	-	-	-	-	-	0 60	-	5 00	-	30 00	0 90
4 00	-	-	-	-	-	-	-	1 00	-	5 00	100 00	35 00	1 40
3 40	1 25	-	-	-	-	-	-	0 50	2 75	-	75 00	-	1 50
-	-	1 00	1 25	1 50	-	-	-	-	-	5 00	80 00	-	-
3 70	1 00	1 25	1 25	-	-	-	-	1 00	-	-	100 00	35 00	1 40
4 25	-	-	-	-	-	-	-	-	3 00	-	-	-	2 00
3 50	-	-	-	-	-	-	-	0 70	2 75	5 00	-	30 00	2 00
2 90	-	-	-	-	-	-	-	0 75	-	-	85 00	-	1 50
3 30	1 50	1 75	-	4 50	-	-	-	0 90	-	5 00	90 00	40 00	1 25
3 45	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	1 75
-	-	-	-	2 00	-	-	-	0 75	-	-	-	24 00	1 20
-	-	-	-	1 60	-	-	-	0 70	-	-	-	-	1 15
3 60	2 00	2 25	-	-	-	-	-	0 75	-	5 00	90 00	35 00	1 60
2 75	-	2 00	-	-	-	-	-	0 80	1 90	-	80 00	-	1 40
3 80	1 50	1 55	-	-	-	-	-	0 90	-	-	100 00	-	1 35
3 00	2 00	2 10	2 40	-	-	-	-	-	2 25	-	85 00	-	1 50
3 85	-	-	-	-	-	-	-	1 00	-	-	-	-	1 35
-	-	-	-	2 25	-	-	-	0 50	2 80	-	-	35 00	2 10
-	1 25	-	1 75	1 75	-	-	-	1 00	-	-	80 00	-	1 35
3 90	-	-	-	2 00	-	-	-	1 00	3 00	-	90 00	35 00	1 35
3 50	-	-	-	-	-	-	-	0 60	-	-	-	-	1 20
3 50	-	-	-	-	-	-	2 75	0 70	-	-	-	27 00	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 85	-	-	-	2 00	-	2 50	3 00	-	2 50	-	-	-	1 95
-	-	-	-	1 20	-	-	-	0 70	-	-	100 00	-	-
4 25	-	-	-	-	-	-	-	1 00	-	6 00	100 00	-	1 50
4 00	-	2 50	-	-	-	-	-	-	-	-	-	-	2 25
-	-	2 25	-	-	-	-	-	0 85	-	-	-	29 50	1 75
3 60	1 40	1 50	-	-	-	-	-	0 70	3 00	-	80 00	-	1 40
3 20	-	1 60	2 25	2 25	-	-	-	0 70	-	-	100 00	35 00	1 50
3 50	-	-	-	-	\$2 00	-	-	0 75	-	-	-	-	1 10
4 50	-	2 50	-	-	-	-	-	1 00	-	-	100 00	30 00	1 50
-	-	-	-	-	-	-	-	0 70	-	-	100 00	40 00	1 25
2 95	-	2 25	-	3 75	-	-	-	1 00	-	5 00	85 00	35 00	1 90
4 00	2 10	2 50	3 00	-	-	-	-	1 00	-	6 00	90 00	35 00	1 40
3 90	-	-	-	1 75	-	-	2 25	-	3 00	-	-	-	1 25
2 75	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	1 98	-	-	-	-	-	0 85	-	4 00	85 00	30 00	1 50
2 90	-	-	-	2 00	-	-	-	1 00	-	-	-	-	1 40
-	-	-	-	-	-	2 75	3 00	1 00	2 40	-	-	-	1 70
3 50	-	2 00	2 75	-	-	-	-	1 00	-	6 00	90 00	40 00	1 30
3 00	-	-	-	-	-	-	-	70	-	5 00	-	-	1 25
3 85	-	-	-	2 00	-	-	2 50	0 70	-	-	80 00	-	-
-	-	-	-	-	-	-	-	0 80	-	5 00	60 00	-	-
4 25	-	-	-	2 00	2 25	-	3 00	1 00	2 90	-	-	-	1 75
-	-	-	-	-	-	-	-	0 75	-	-	-	-	1 50
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 50	-	2 00	2 50	-	-	-	-	0 70	-	5 00	75 00	30 00	1 30
3 25	-	-	-	2 00	-	-	-	0 75	-	-	-	-	1 30
3 50	1 50	1 75	2 25	-	-	-	-	1 00	-	5 00	90 00	30 00	1 51
3 60	-	-	-	-	-	-	-	0 70	3 00	4 00	-	-	1 60
4 00	-	-	-	2 50	-	-	-	-	3 25	-	-	-	1 40
3 50	1 40	1 50	-	2 00	-	-	-	-	2 80	5 00	100 00	38 00	1 30
3 70	-	2 00	2 50	-	-	-	-	0 75	-	-	70 00	-	1 30
-	-	-	-	-	-	-	-	1 00	-	-	100 00	-	-
-	-	-	-	1 70	-	-	-	0 80	-	-	-	-	1 60
-	-	-	-	2 25	-	-	-	0 70	-	-	-	-	1 50
3 60	1 40	1 50	-	-	-	-	-	-	3 00	-	80 00	-	1 50



CONTRACT PRICES DEC. 1, 1923 TO NOV. 30, 1924 — *Concluded.*

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Mas. Plain Conc. (Cu. Yd.).	BIT. SUR- FACING.		Cone. Surf. (Cu. Yd.).
		Earth (Cu. Yd.).	Borrow (Cu. Yd.).	Ledge (Cu. Yd.).		Asphalt (Gals.).	Tar (Gals.).	
Reading-N. Reading-An- dover.	R. H. Newell Co.	\$2 20	-	\$7 00	-	-	-	-
Rockport . . . . .	James E. Watkins . . . . .	2 00	\$1 75	5 00	\$22 00	\$0 16	-	-
Russell . . . . .	Adams Ruxton Const. Co. . . . .	0 95	1 00	5 00	25 00	0 17	-	-
Salisbury-Newburyport . . . . .	James E. Watkins . . . . .	0 95	1 05	4 00	18 00	0 16	-	-
Saugus . . . . .	M. McDonough Co. . . . .	1 25	1 00	5 00	15 00	0 15	-	-
Seekonk . . . . .	Byron C. Jordan . . . . .	1 10	1 00	3 50	20 00	0 14 $\frac{1}{2}$	-	-
Seekonk . . . . .	Jos. McCormick . . . . .	1 10	-	5 00	25 00	0 14	-	\$12 00
Sharon . . . . .	Coleman Bros., Inc. . . . .	1 40	-	6 00	-	0 13	-	-
Sheffield . . . . .	Luke S. White, Inc. . . . .	1 50	2 00	2 00	20 00	-	-	-
Sheffield . . . . .	W. C. Tannatt, Jr. . . . .	1 75	1 00	5 00	25 00	-	-	-
Shirley . . . . .	Paul J. Keating . . . . .	1 50	1 50	4 00	-	0 17	-	-
Southampton . . . . .	Daniel O'Connell's Sons . . . . .	1 25	1 50	2 50	26 00	0 17	-	-
Stockbridge . . . . .	Lawrence J. Kelleher . . . . .	1 25	1 50	3 50	25 00	0 19	-	-
Stockbridge . . . . .	Hoyt Const. Co. . . . .	2 70	2 10	10 00	35 00	0 24	-	16 00
Stoughton . . . . .	Powers Bros. . . . .	1 40	1 25	4 00	20 00	0 14	-	-
Sudbury . . . . .	Chas. A. Bassett . . . . .	1 10	-	4 50	-	0 15	-	-
Templeton . . . . .	C. J. Sweeney . . . . .	1 25	1 25	5 00	35 00	-	-	-
Townsend . . . . .	C. H. Holmes Const. Co. . . . .	2 00	1 50	8 50	15 00	-	-	-
Truro-Provincetown . . . . .	Lane Const. Corp. . . . .	1 00	1 25	4 00	30 00	0 20	-	-
Walpole . . . . .	Crowley Bros. . . . .	1 50	-	4 80	-	0 18	-	-
Wareham . . . . .	Lane Const. Corp. . . . .	1 00	1 00	2 00	25 00	0 15	-	-
Wayland . . . . .	The Crandall Engineering Co.	5 00	1 10	-	-	0 30	-	-
W. Stockbridge . . . . .	Lawrence J. Kelleher . . . . .	1 50	-	4 00	30 00	0 19	-	-
W. Stockbridge . . . . .	F. J. Hynes & Son . . . . .	1 20	1 30	10 00	20 00	-	-	-
Westwood . . . . .	Reynolds Bros., Inc. . . . .	1 30	-	4 50	25 00	0 14	-	-
Westwood . . . . .	Paul J. Keating . . . . .	1 50	-	5 00	25 00	0 15	-	-
Wilbraham . . . . .	W. C. Tannatt, Jr. . . . .	3 25	1 25	3 00	-	0 17	-	12 75
Williamstown . . . . .	D. S. McGrath, Inc. . . . .	1 00	1 00	3 00	25 00	0 18	-	-

CONTRACT PRICES DEC. 1, 1923 TO NOV. 30, 1924 — *Concluded.*

Broken Stone (Ton).	PIPE CULVERTS (LINEAL FOOT).							Fencing (Lin. Ft.).	Stone Filling (Cu. Yd.).	Bounds (Each).	Catch Basins (Each).	Reinforced Conc. Mas. (Cu. Yd.).	Gravel Borrow (Cu. Yd.).
	CLAY.			CORR. IRON.									
	10 In.	12 In.	15 In.	12 In.	14 In.	16 In.	18 In.						
\$4 40	-	-	r	-	-	-	-	-	-	-	-	-	\$3 20
3 20	-	\$2 20	-	-	-	-	-	-	-	-	\$75 00	-	1 90
3 25	-	1 40	-	-	-	-	\$3 20	\$0 70	\$3 00	\$4 75	85 00	\$33 00	1 15
3 60	-	-	-	-	-	-	-	0 75	-	-	75 00	30 00	1 25
2 25	-	-	-	-	-	-	-	0 90	-	-	100 00	-	1 60
3 60	\$1 50	1 60	-	\$2 00	-	-	-	0 70	-	-	80 00	22 00	1 50
3 50	1 85	1 85	\$2 00	2 25	-	-	-	-	-	-	100 00	35 00	1 35
3 50	1 50	-	-	-	-	-	-	0 80	-	-	100 00	-	1 50
-	-	-	-	-	-	-	-	1 00	-	-	-	41 00	2 25
-	-	-	-	-	-	-	-	0 70	-	4 00	-	42 50	1 00
3 70	-	-	-	-	-	-	-	-	-	-	-	-	1 75
2 75	-	1 75	2 25	2 25	-	-	-	0 75	2 85	5 00	-	37 00	1 65
3 20	-	-	-	2 25	-	-	3 00	0 70	2 70	-	-	-	1 75
3 20	2 40	-	-	-	-	-	-	1 00	-	-	-	30 00	2 20
3 60	1 40	1 50	-	-	-	-	3 00	0 75	3 00	-	80 00	-	1 40
3 75	-	-	-	-	-	-	-	-	-	-	-	-	1 75
-	-	1 50	-	-	-	-	-	0 75	2 50	-	-	-	1 25
-	-	-	-	-	-	-	-	0 90	-	-	-	27 00	3 00
-	-	2 00	-	-	-	-	-	0 90	-	5 00	100 00	35 00	-
3 10	-	-	-	2 00	-	\$2 40	2 80	0 70	-	-	-	-	1 60
3 95	-	2 00	-	-	-	-	-	0 75	-	5 00	100 00	37 00	1 25
5 25	-	-	-	-	-	-	-	1 00	-	-	-	40 00	1 75
3 35	-	-	-	2 25	-	-	3 00	-	2 70	-	100 00	35 00	1 75
-	-	-	-	-	-	-	-	0 70	-	-	-	36 00	1 35
3 40	-	-	-	-	-	-	-	0 60	-	-	-	-	1 30
3 55	1 50	1 50	1 75	-	-	-	-	0 75	-	5 00	90 00	-	1 60
3 00	-	-	-	-	-	-	-	0 70	-	-	-	-	2 10
3 25	-	2 00	-	-	-	-	-	0 70	3 00	5 00	90 00	35 00	1 30



REGISTRY OF MOTOR VEHICLES.

The work of the Registry of Motor Vehicles has greatly increased in volume during the past year, both in the registering of motor vehicles and the issuing of licenses to operate, as well as the important functions of the Registrar in safeguarding the motorists and pedestrians on the highways, by prosecuting offenders of the motor vehicle laws, revoking and suspending licenses and registrations. The outstanding figures for the year are as follows: —

Registrations and number plates issued . . . . .	683,093
Licenses to operate issued . . . . .	620,439
Examinations of applicants for licenses . . . . .	161,284
Cash receipts . . . . .	\$8,122,166
Licenses and registrations revoked and suspended . . . . .	14,154
Licenses revoked for driving under influence of liquor . . . . .	4,395
Hearings for reinstatement of licenses . . . . .	4,366
Reports on investigations and examinations . . . . .	8,012
Headlight violations . . . . .	32,116
Offenders prosecuted in courts . . . . .	647
Miscellaneous complaints filed . . . . .	12,279

Great interest is still shown by other States and various commercial agencies in the work of the Registry, and correspondence has been carried on with the authorities of outside States in the effort to assist them in the organization of new Motor Vehicle Departments.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS.

The number of deaths caused by motor vehicles in 1924 is the largest on record for Massachusetts, exceeding the previous high number of 582 in 1919. In the following year, when the Registrar was appointed, there was a substantial reduction of 101 fewer persons killed from this cause, but the subsequent years show increasing numbers, with a total of 709 for the present year. This is an increase of 22.6% over the number for 1923, whereas the percentage increase in registrations was 18.2% and in the number of persons licensed 15.5%. The ratio of deaths to registrations during the past year shows only a very small decimal gain or .00103 as compared with .00100. The failure to improve conditions this year is further brought out by the fact that while last year there were 999 cars registered for each person killed, this year there were only 963 cars registered for each person killed. But even this shows a striking improvement over conditions before 1919, when on an average there were less than 450 cars for every death.

Another item of interest in this connection is that the most fatal hour of the day in motor vehicle accidents is between 5 and 6 P.M., the rush hour, when both pedestrians and motorists are hurrying home. During that one hour of the day no less than 87 persons lost their lives in the past year. The Registry is now making a special study of the location of accidents by recording these accidents on "spot maps."

MOTOR VEHICLE ACCIDENTS TO PERSONS.

	KILLED.		INJURED.	
	1923.	1924.	1923.	1924.
Pedestrians, by autos . . . . .	334	440	9,601	11,057
Pedestrians, by motor cycles . . . . .	1	1	31	16
Pedestrians near street cars . . . . .	10	9	25	27
Occupants of autos . . . . .	165	212	5,772	7,614
Occupants of motor cycles . . . . .	38	26	262	274
Bicycle riders . . . . .	20	10	305	339
Occupants of teams, carriages, etc. . . . .	2	2	124	128
Coasters . . . . .	8	9	97	124
Totals . . . . .	578	709	16,217	19,579

		KILLED.		INJURED.	
		1923.	1924.	1923.	1924.
Children killed and injured:					
Boys	.	164	173	3,500	3,834
Girls	.	59	87	1,437	1,714
Totals	.	223	260	4,937	5,548

		NUMBER OF COLLISIONS.		1923.	1924.
Autos v. pedestrians	.	.	.	9,754	11,190
Autos v. autos	.	.	.	11,844	11,542
Autos v. teams, carriages, etc.	.	.	.	316	230
Autos v. bicycles	.	.	.	367	356
Autos v. trolley cars	.	.	.	490	362
Autos v. poles, trees, etc.	.	.	.	1,253	790
Autos v. trains	.	.	.	57	49
Autos v. motor cycles	.	.	.	358	293
Autos v. sleds	.	.	.	76	96
Motor cycles v. pedestrians	.	.	.	30	16
Totals	.	.	.	24,545	24,924
In the daytime	.	.	.	18,075	18,228
After dark	.	.	.	6,470	6,696
Totals	.	.	.	24,545	24,924

ACCIDENT REPORT LETTERS.

Under Section 26, Chapter 90, of the General Laws, every operator of a motor vehicle which is in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received during 1924 was 24,499, as compared with 18,689 received in 1923. In addition to these accident reports sent in by individual operators, the Registrar is now receiving a large number of police reports which are made out on a condensed analysis sheet, giving the Police the opportunity to state the major factors which entered into the accident, such as the street conditions, time of day or night, the classes of persons killed or injured, nature of collision and causes. Since the middle of August, 1924, the Registrar has received approximately 4,000 of these reports by Police, which are very useful in checking up the reports made by operators, and also in making more complete our statistical records.

COMPARATIVE STATEMENT SHOWING RATIO OF ACCIDENTS TO YEARLY REGISTRATIONS, SUSPENSIONS, ETC.

YEAR.	Auto- mobiles Regis- tered.	Motor- cycles Regis- tered.	Total Regis- tration.	Number of Persons Killed.	Ratio of Deaths to Regis- trations.	Number of Persons Injured.	Ratio of Injuries to Regis- trations.	Suspen- sions and Revoca- tions.	Driving under Influence of Liquor.
1908	18,066	1,922	19,988	13	.00065	486	.02431	56	7
1909	23,971	2,394	26,365	54	.00205	989	.03751	200	23
1910	31,360	3,358	34,718	77	.00222	963	.02774	283	22
1911	38,907	3,658	42,565	110	.00258	1,248	.02932	360	14
1912	50,132	5,034	55,166	142	.00257	1,962	.03557	546	56
1913	62,660	7,127	69,787	188	.00269	2,923	.04188	608	87
1914	77,246	8,161	85,407	229	.00268	4,010	.04695	858	131
1915	102,633	9,520	112,153	294	.00262	6,197	.05525	1,153	202
1916	136,809	10,713	147,522	315	.00214	9,131	.06190	1,396	320
1917	174,274	11,065	185,339	438	.00236	7,282	.03929	1,831	485
1918	193,497	12,862	206,359	499	.00242	8,598	.04166	2,343	553
1919	247,183	13,698	260,881	582	.00223	16,287	.06243	2,156	554
1920	304,631	15,143	319,774	481	.00150	21,182	.06624	2,944	888
1921	360,731	12,058	372,790	544	.00145	11,487	.03081	4,899	1,508
1922	449,838	11,675	461,513	522	.00113	15,277	.03310	8,369	2,460
1923	566,150	11,733	577,883	578	.00100	16,217	.02804	11,613	3,333
1924	672,315	10,778	683,093	709	.00103	19,579	.02866	14,154	4,395



INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS.

Investigations and examinations were conducted under the direction of the Chief Inspector, with the assistance of ninety-four inspectors. Their investigations and reports relate to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in Court. The following tabulation giving the classifications of the work of the inspectors shows comparative figures for the years 1923 and 1924:—

<i>Classification of Reports.</i>	1923.	1924.
Accidents, fatal . . . . .	508	688
Accidents, non-fatal . . . . .	750	1,264
Accidents, brief reports . . . . .	392	752
General reputation . . . . .	947	1,204
Miscellaneous . . . . .	3,230	4,104
<b>Totals . . . . .</b>	<b>5,827</b>	<b>8,012</b>
Complaints filed . . . . .	11,650	12,279
Garages inspected . . . . .	1,028	599
Headlight violations reported . . . . .	30,731	32,116
Prosecutions conducted . . . . .	495	647
Fines imposed . . . . .	\$15,233	\$22,135

ANALYSIS OF COURT ABSTRACTS RECEIVED.

	1923. <sup>1</sup>	1924.
Number of courts forwarding abstracts . . . . .	95	95
Number of abstracts received . . . . .	26,660	36,512

*Offences.*

(Analysis of guilty cases not including appeals.)

Overspeeding . . . . .	8,123	11,343
Reckless . . . . .	235	328
Intoxicated . . . . .	2,608	3,957
Using auto without authority . . . . .	399	677
Endangering lives . . . . .	628	1,295
Not stopping after causing injury . . . . .	279	545
Without license . . . . .	3,836	4,663
Without registration certificate . . . . .	1,556	1,984
Unregistered vehicle . . . . .	485	558
Improper display or no register number . . . . .	629	681
Refusing to stop on signal . . . . .	501	633
Unlighted lamps or no lamps . . . . .	1,290	1,398
No signal . . . . .	2,409	2,978
Improper lights . . . . .	666	777
Operating within 8 feet of street car . . . . .	377	514
Violation of metropolitan park rules . . . . .	675	657
Operating, license suspended or revoked . . . . .	159	336
Larceny . . . . .	88	213
Manslaughter . . . . .	4	4
Miscellaneous . . . . .	1,713	2,971

REVOCATIONS AND SUSPENSIONS FOR 1923 AND 1924.

	1923.	1924.
Licenses suspended . . . . .	4,592	5,207
Licenses revoked . . . . .	1,526	1,813
Rights suspended . . . . .	1,510	2,108
Registration certificates suspended . . . . .	59	16

<sup>1</sup> It will be noted, in comparing the figures for court abstracts and offences for the years 1923 and 1924, that those stated herein for 1923 differ from the figures given in last year's report. This is due to a change in the method of analyzing and recording court abstracts for 1924.

	1923.	1924.
Registration certificates revoked . . . . .	2,251	2,581
Registration certificates and licenses suspended . . . . .	68	68
Registration certificates and licenses revoked . . . . .	1,450	2,179
Registration certificates revoked and rights suspended . . . . .	133	164
Rights to have cars operated in Massachusetts suspended . . . . .	24	18
Totals . . . . .	11,613	14,154
Resulting from investigations . . . . .	6,441	7,418
Resulting from court convictions . . . . .	4,498	6,199
Resulting from police complaints . . . . .	363	318
Resulting from judge's complaints . . . . .	58	52
Resulting from constabulary complaints . . . . .	253	167

11,613 14,154

<i>Character of Offences.</i>	1923.	1924.
Reckless and endangering . . . . .	772	1,169
Liquor . . . . .	2,703	3,547
Going away . . . . .	210	341
Without authority . . . . .	365	325
Racing . . . . .	-	10
Improper person . . . . .	1,547	2,488
Improper person, liquor . . . . .	630	848
Improper operation . . . . .	2,606	2,521
Two speeds . . . . .	308	425
Three speeds . . . . .	19	27
Improper equipment, miscellaneous . . . . .	207	232
Improper equipment, lights . . . . .	912	560
Improper equipment, brakes . . . . .	523	818
Deaths . . . . .	532	654
Other offences . . . . .	279	189

Totals . . . . . 11,613 14,154

Hearings . . . . . 3,612 4,366

Court recommendations adopted:—

Liquor . . . . .	195	80
Reckless and endangering . . . . .	33	37
Going away . . . . .	18	11
Without authority . . . . .	3	-

Totals . . . . . 249 128

Persons whose licenses were suspended or revoked and who had to pass an examination in order to have them returned . . . . . 760 1,695

EXAMINATIONS FOR LICENSES.

The examination of applicants for licenses to drive is becoming more and more strict. A system of eye tests has now been adopted for all applicants who appear to have any defect in their vision, and also for any operators who have become involved in an accident and whose poor eyesight may have been a contributing factor.

Examinations of applicants for licenses to operate motor vehicles were held at fifty-three examining points in the Commonwealth. At some of these points examinations were conducted daily and at other places weekly or fortnightly, depending on the season of the year. During the fiscal year 1924, inspectors conducted 161,284 examinations. The table below gives the several classes of persons examined and shows the number of those who were found unfit.



	1921.	1922.	1923.	1924.
Total examinations . . . . .	94,023	122,220	158,373	161,284
Chauffeurs examined . . . . .	46,506	54,541	55,427	—
Chauffeurs unfit . . . . .	5,485	7,575	12,915	—
Operators examined . . . . .	46,136	64,447	64,622	150,068
Operators unfit . . . . .	9,716	12,968	19,508	32,293
Removal of restriction, examined . . . . .	—	3,130	5,261	10,764
Removal of restriction, unfit, . . . . .	—	255	530	1,041
"Competency", passed . . . . .	137	102	93	155
"Competency", unfit . . . . .	23	17	17	20

#### HEADLIGHTING.

One headlighting device was submitted for approval, with the required fee of fifty dollars, and was subsequently approved by the Registrar under the provisions of Section 7, Chapter 90, General Laws. The procedure in obtaining approval of headlight devices in this state is the same as that followed in other states whose Motor Vehicle Administrators are members of the Eastern Conference of Motor Vehicle Administrators. The manufacturer first submits the device to the Conference for consideration at the quarterly meetings, and if it receives the approval of the Conference, formal application is then made to the states.

Approximately fourteen headlighting devices were considered by the Conference during the year. Except for the one which was approved by the Conference and subsequently approved in this state, most of the others were rejected for one or more justifiable reasons. Three or four are now under consideration by the Conference, final action being held in abeyance pending certain necessary changes in the design or construction.

The total number of electric headlighting devices approved by the Eastern Conference of Motor Vehicle Administrators and on the Massachusetts "A" list is now 31 for automobiles and 6 for motor cycles. In addition to these, acetylene lamps are approved for all types of motor vehicles. The "B" list of headlighting devices which are approved and legal in Massachusetts remains the same. There are 16 devices on this list, which represent those approved in this state before the Conference was formed, and which were not subsequently approved by the Conference. These were types commonly used several years ago and are not now manufactured.

During the year inspectors attached to the Department reported 32,116 violations of the headlight law, compared with 30,731 for 1923, and 12,096 for the preceding year. The increasing work of the inspectors on examinations and investigations of accidents made it impossible for them to accomplish as much headlighting work per man as in the preceding year. The average number of headlight violations reported per inspector was approximately 400 in 1923, and 350 in 1924. Effective work in this matter calls for vigorous efforts to focus the attention of the public upon the necessity for adjusting headlamps, and there was less opportunity for work of this nature in 1924 than in 1923. The total number of violations reported this year is a smaller percentage of the total registrations than that for the previous year.

#### REAR LAMPS.

During the year thirteen rear lamps were submitted and approved by the Registrar. The growing demand by the public for stop lights, so called, was evidenced by the fact that ten of these were built in combination with a stop light. Of the remaining three, one was a single electric tail lamp for automobiles, one an electric tail lamp for motor cycles, and one was an acetylene gas tail lamp for trucks. The total number of rear lamps of all kinds now approved is 106.

#### BRAKES.

The importance of efficient brakes on all motor vehicles as one factor in preventing accidents has led the Registrar to inaugurate a brake inspection campaign. This work was made possible by the development of a simple instrument, called a Decelerometer, at the United States Bureau of Standards at Washington, D. C.

The construction of this instrument is, in principle, such as to indicate the retardation, or rate at which the vehicle slows down when the brakes are applied. The dial of the instrument may be calibrated to show the distance within which the vehicle will stop when traveling at any stated speed, regardless of the speed of the vehicle at the time of the test. As used by this Department the dial is calibrated to show the distance within which the vehicle will stop from a speed of twenty miles per hour.

Complete tables on brake effectiveness have been prepared by this Department as a result of experimental work. These tables show the condition of brakes for different stopping distances. Naturally the stopping distance is governed by a number of variable factors which are:

- 1. Number of wheels on which the brakes are applied.
- 2. Efficiency of the brake mechanism.
- 3. Weight on the braked wheels.
- 4. Type and condition of tires.
- 5. Type and condition of road.

The following abridged table shows the number of feet in which a car can stop from a speed of twenty miles an hour, with brakes in varying conditions of usefulness, when the car is operated on a dry tar or concrete road and the brakes are effective on the rear wheels.

	Feet.
Perfect brakes . . . . .	35
Good brakes . . . . .	40
Brakes, passable . . . . .	45
Brakes, not passable . . . . .	60

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS.

During the year 1924 four meetings of the Eastern Conference of Motor Vehicle Administrators were held. The first meeting was held in New York City on January 25; the second in Atlantic City, New Jersey on April 25; the third in Baltimore, Maryland, on July 17; and the fourth in Boston, Mass., on September 26. All of these meetings were attended, either by the Registrar or a representative from the Department.

The Conference now includes the heads of the Motor Vehicle Departments in each of the following states: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Delaware, Virginia, the District of Columbia, and the provinces of Ontario and Quebec, Can.

The object of the association is to promote uniformity, co-operation and reciprocity among the member states, with respect to the regulation and operation of motor vehicles.

The most active work of the Conference relates to the regulation of the motor vehicle headlighting. (See reference to the Conference under the heading "Headlighting.") The history of headlighting control by enforcement officers under state laws is one of gradual but steady improvement. Mistakes which were made, not only in the construction of the headlights, but also in the laws governing their control at the time that electric headlamps were introduced to common usage on automobiles, have exerted a strong retarding influence upon the necessary improvement in construction and enforcement. The Conference has been carrying on work along these lines of great benefit to the whole country, with the result that better lamps are now built and amendments are being made to state laws from time to time.

Among the various additional matters considered by the Conference during the year, which are of equal, if not greater, importance than the subject of headlighting are: Questions on compulsory insurance, qualifications of applicants for licenses, correction of traffic difficulties, anti-theft laws and accident statistics. While it has not been possible to reach a common agreement on all of these subjects, the discussions at the meetings of the Conference have been of great benefit



to all the member administrators, and one of the most important results accomplished has been the improvement of reciprocal relations between the Motor Vehicle Departments of the member states, which has been effected by the personal contact of their officials.

The Recess Committee of the Massachusetts Legislature during its investigation of motor vehicle matters met the Conference at the September meeting in Boston and received considerable assistance. The National Conference on Street and Highway Safety, called by Herbert A. Hoover, Secretary of Commerce, also received the benefit of the views of the Eastern Conference of Motor Vehicle Administrators.

#### AIRCRAFT REGISTRATIONS.

(Chapter 90, General Laws, as amended by Chapter 534 of the Acts of 1922, regulating the operation of aircraft.)

In the year 1924 17 pilots' licenses were issued and 12 airplanes were registered. During the year the licenses of 2 pilots were taken away and the rights of 1 pilot suspended. One pilot was prosecuted and convicted in Court for aircraft violations.

The following comparative table shows the record relating to aircraft for the years 1923 and 1924.

	1923.	1924.
Pilots' licenses issued . . . . .	17	17
Airplanes registered . . . . .	17	12
Pilots' license fees received, 15 originals at \$10; 2 renewals at \$5	\$160	—
Pilots' license fees received, 10 originals at \$10; 7 renewals at \$5	—	\$135
Airplane registration fees received, 17 at \$15 . . . . .	\$255	—
Airplane registration fees received, 12 at \$15 . . . . .	—	\$180
Pilots' licenses suspended or revoked . . . . .	1	2
Right to fly suspended or revoked . . . . .	4	1
Pilots licenses reinstated . . . . .	—	1
Names placed on Black List . . . . .	—	3
Court convictions on aircraft violations . . . . .	2	1

#### USED CAR SECTION.

(Motor Vehicle Identification.)

The following figures show the work of the Used Car Section for the year 1924: —

Dealers:	1923.	1924.
Total number making reports to this office . . . . .	1,740	1,629
Total number of first-class dealers reporting . . . . .	1,214	1,059
Total number of second and third-class dealers reporting . . . . .	526	570
Reports:		
Approximate number of individual reports received daily . . . . .	300	350
Approximate number of dealers' reports received daily . . . . .	600	1,000
Motor vehicles stolen:		
Number of stolen motor vehicles reported to this office . . . . .	8,535	9,500
Number of cars stolen in Boston . . . . .	516	785
Number of cars stolen in Massachusetts . . . . .	2,535	2,600
Number of cars recovered through this office . . . . .	371	350
Engine and serial numbers:		
Engine numbers assigned to cars . . . . .	250	102
Letters authorizing replacing of engine numbers . . . . .	85	209
Letters authorizing replacing of serial numbers . . . . .	—	43

This section indexes the cars reported stolen and also lists the sale of used cars. In 1924, there were 9,500 cars reported stolen to this office. This total represents cars stolen from different parts of the country.

The following cars stolen outside of Massachusetts have been recovered here through information furnished by this office:

Where stolen.	Make of car.	Where recovered.
Nashua, N. H.	Ford	Lowell
Cabot, Vt.	Ford Coupe	Dorchester
Pawtucket, R. I.	Packard limousine	Wrentham
Providence, R. I.	Cadillac	Dorchester
Hartford, Conn.	Chandler sedan	Spencer
Hartford, Conn.	Jordan touring	Norwood
New York City	Buick sedan	Somerville
New York City	Columbia sedan	Williamstown
New York City	Ford sedan	Roxbury
St. Louis, Mo.	Gardner roadster	So. Framingham

The following cars stolen in Massachusetts have been recovered outside of the State through information furnished by this office:

Make of Car.	Where recovered.
Auburn sedan	Bangor, Me.
Buick coupe	Bangor, Me.
Cole touring	Biddeford, Me.
Packard coupe	Kennebunk, Me.
Elcar coupe	Saco, Me.
Dodge touring	Wells Beach, Me.
Ford sedan	Dover, N. H.
Oakland touring	E. Andover, N. H.
Ford touring	Fitzwilliam, N. H.
Ford sedan	Henniker, N. H.
Ford coupe	Manchester, N. H.
Franklin touring	Manchester, N. H.
Studebaker coupe	Manchester, N. H.
Hudson sedan	Portsmouth, N. H.
Buick runabout	Burlington, Vt.
Auburn touring	Montpelier, Vt.
Ford runabout	Montpelier, Vt.
Nash touring	Montpelier, Vt.
Ford touring	Sherburne, Vt.
Ford coupes, 2	Pawtucket, R. I.
Ford sedan	Pawtucket, R. I.
Ford coupe	Providence, R. I.
Ford touring	Providence, R. I.
Ford coupe	E. Hartford, Conn.
Ford speedster	Orange, Conn.
Nash touring	Plainville, Conn.
Stutz touring	Fort Chester, N. Y.
Ford coupe	Hudson, N. Y.
Buick touring	Katonah, N. Y.
Cole touring	Towners, Putnam County, N. Y.
Chevrolet coupe	St. Johnsville, N. Y.
Ford coupe	Syracuse, N. Y.
Maxwell touring	Erie, Pa.
Columbia	Pittsburgh, Pa.
Ford coupe	Canton, Ohio
Ford touring	Marne, Ia.
Studebaker, Big Six	Richmond, Va.
Buick touring	Huntington, W. Va.
Stutz touring	Lyons, Ga.
Ford touring	Corydon, Ky.
Hudson coach	Rockingham, N. C.
Hudson speedster	Halifax, N. S.
Ford touring	Cape Armand, P. of Q., Can.
Studebaker sedan	Montreal, Que., Can.
Maxwell touring	Renous, N. B., Can.
Marmon touring	Quebec, Can.



The following cars stolen outside of Massachusetts have been recovered outside of the State through information furnished by this office; Dodge touring car, stolen in 1922, in Washington, D. C., recovered in Hollywood, Cal.; Star coupe stolen in Bennington, Vt., recovered in Laconia, N. H.; Studebaker sedan, stolen in June 1923 in Pawtucket, R. I., recovered in Durham, N. H. A Ford run-about bearing Massachusetts registration plates was found abandoned in Charleston, Ill., and upon investigation by this office it was found that the owner had formerly lived in Haverhill, Mass., but had moved to Charleston, Ill., six months previous to the time the car was recovered.

MOTOR VEHICLES STOLEN REPORTED TO THIS OFFICE.

	1922.	1923.	1924.
Reported to this office . . . . .	8,101	8,535	9,500
Stolen in Massachusetts . . . . .	—	2,535	2,600
Stolen in Boston . . . . .	379	516	785
Recovered through this office . . . . .	280	371	350

CARS STOLEN IN BOSTON.

Seven Year Record.

	1918.	1919.	1920.	1921.	1922.	1923.	1924.
Cars stolen . . . . .	866	1,063	480	490	379	516	785
Cars recovered . . . . .	607	609	297	329	159	202	425
Cars not recovered . . . . .	259	454	183	161	220	314	360

The number of the different makes of cars which were stolen in 1924 was approximately the same as in 1923, with the Ford cars heading the list, being followed in order by the Buick, Essex, Hudson, Cadillac, Dodge, Studebaker, Chandler, Chevrolet, Overland and Nash.

BRANCH OFFICES.

The nine branch offices of the Registry of Motor Vehicles which were in service in 1923 were maintained in 1924, so that it was possible for the public to obtain registrations and licenses without sending to the Boston office. Arrangements were completed for the opening of a new branch office at Brockton and a temporary branch office at Hyannis in preparation for the 1925 registrations. The cost of equipment, personal services and other expenses connected with this work, as well as the number of applications received, was as follows:

LOCATION.	Total Cost of Equipment, 1923 and 1924.	Total Cost of Personal Services, and Other Expenses, 1924.	Number of Applications received, 1924.
Pittsfield . . . . .	\$2,184 85	\$4,597 93	26,619
Springfield . . . . .	516 94	3,898 40	108,132
Worcester . . . . .	1,993 93	7,931 28	85,308
Lawrence . . . . .	1,296 89	5,028 60	43,717
Lowell . . . . .	1,268 16	4,176 75	31,821
Fall River . . . . .	1,884 03	5,672 49	32,828
New Bedford . . . . .	1,718 82	3,013 41	34,991
Lynn . . . . .	1,868 12	6,263 51	54,652
Quincy . . . . .	1,766 81	5,715 31	38,929
Totals . . . . .	\$14,498 55	\$46,297 68	456,997

REGISTRATIONS, LICENSES, FEES.

While the percentage of increase in motor vehicle registrations was not as great in 1924 as it was in 1923, practically every classification showed a considerable increase. The number of passenger car registrations in 1924 was 20 per cent

P.D. 54.

59

greater than in the previous year. The number of commercial motor vehicles registered was 10 per cent greater, while the motor cycle registrations remained about the same. The volume of applications handled jumped from 1,206,803 to 1,397,675, or an increase of 16 per cent. The following statement shows the increased registrations:—

PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES.

	1905.	1910.	1915.	1920.	1923.	1924.
Passenger cars . . . . .	4,889	31,360	90,580	251,570	482,645	580,489
Commercial vehicles . . . . .	—	—	12,053	52,968	83,505	91,826
Motor cycles . . . . .	553	3,358	9,520	15,142	11,733	10,778
Totals . . . . .	5,442	34,718	112,153	319,680	577,883	683,093

The fees received for the year 1924, together with the number of vehicles registered in each classification and the number of licenses granted, etc., are shown in the following table:—

ANALYSIS OF RECEIPTS.

Certificates of registration:			
Passenger cars . . . . .	580,489	\$5,119,147	50
Commercial cars . . . . .	91,826	1,233,626	50
Trailers . . . . .	672	12,798	50
Motor cycles . . . . .	10,778	49,310	00
Motor cycle dealers . . . . .	48	480	00
Manufacturers or dealers . . . . .	1,961	58,370	00
Repairers' fees . . . . .	113	2,812	50
Additional cars . . . . .	6,106	40,643	00
Licenses to operate:			
Original licenses . . . . .	120,259 at \$2	00	240,518 00
Renewal licenses . . . . .	500,180 at 2	00	1,000,360 00
Examinations . . . . .	159,006 at 2	00	318,012 00
Copies of certificates and licenses furnished	1,567 at	50	783 50
Copies of certificates and licenses furnished	32,032 at 1	00	32,032 00
Duplicate automobile number plates . . . . .	68 at	75	51 00
Duplicate automobile number plates . . . . .	12,796 at 1	00	12,796 00
Duplicate motor cycle plate . . . . .	1 at	50	50
Duplicate motor cycle plates . . . . .	24 at 1	00	24 00
Head lamp approval applications . . . . .	8 at 50	00	400 00
Miscellaneous receipts . . . . .			1 00
Total . . . . .		\$8,122,166	00
Motor vehicle fees rebated (deducted) . . . . .		98,000	25
Net fees . . . . .		\$8,024,165	75
Court fines received by the Treasurer and Receiver General . . . . .		521,060	29
Total receipts credited motor vehicle fees account, 1924 . . . . .		\$8,545,226	04

The cost of running the Registry of Motor Vehicles for the year 1924 was \$842,805.45, which was 10.5 per cent of the net fees collected, as compared with 10.23 per cent for the year 1923 and 11.54 per cent for the year 1922. This cost, deducted from the receipts for the year, left the sum of \$7,702,420.59 available for legislative appropriation for highway work.

The following statement gives an analysis of expenditures by the Registry for the year:—

EXPENDITURES FOR THE FISCAL YEAR 1924.

Personal Services:			
Regular Payroll . . . . .	\$437,408	96	
Overtime . . . . .	25,269	29	
			\$462,678 25



## Supplies:

Books, maps, etc. . . . .	\$369 55
Typewriter supplies . . . . .	1,490 44
Adding machine supplies . . . . .	50 70
Other supplies . . . . .	951 68
Stationery . . . . .	16,590 89
Typewriter repairs . . . . .	1,296 96
Other repairs . . . . .	207 04

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\$20,957 26

## Equipment:

Typewriter machines . . . . .	\$2,654 28
Other machines . . . . .	2,480 47

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5,134 75

## Furniture:

Desks . . . . .	\$933 68
Filing cabinets . . . . .	14,133 80
Chairs . . . . .	525 01
Tables . . . . .	115 22
Miscellaneous . . . . .	227 71
Electric fans . . . . .	222 26

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16,157 68

## Travel:

Employees . . . . .	\$30,660 20
Automobiles (owned by employees) . . . . .	45,175 13
Automobiles (hired) . . . . .	3,996 17
Other traveling expenses . . . . .	3,499 19
Auto exchange . . . . .	1,265 00

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84,595 69

## Other services and expenses:

Expressage . . . . .	\$653 91
Postage . . . . .	42,356 49
Printing . . . . .	9,541 03
Other reports . . . . .	1,837 73
Lithographing . . . . .	3,606 43
Telephone . . . . .	3,817 36
Premium on bonds of employees . . . . .	341 33
Rent . . . . .	24,181 00
Water and ice . . . . .	1,146 35
Cleaning . . . . .	592 50
Towels . . . . .	590 42
Soap . . . . .	107 64
Tops for Tables in Restaurant . . . . .	528 31
Erection of Counter at Pier . . . . .	657 28
Replacing Doors at Armory . . . . .	200 00

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90,157 78

## Special services (labor and police)

\$2,056 92

## Other services as listed below:

Badges for inspectors . . . . .	98 80
Clocks and regulating . . . . .	168 00
Commissions as justices of the peace . . . . .	255 00
Headlight . . . . .	240 19
Number plates . . . . .	134,840 70
Sundries . . . . .	117 95

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137,777 56

## Branch Office Expenses:

## Equipment:

Erection of counters . . . . .	\$4,111 75
Lettering and signs on windows and doors . . . . .	351 47
Office equipment . . . . .	1,075 99
Typewriter machines . . . . .	682 72
Adding machines . . . . .	1,466 30

Branch Office Expenses — *Concluded.*Equipment — *Concluded.*

Safes . . . . .	\$826 14
Electric fans . . . . .	676 15

\$9,190 52

## Travel:

Travelling expenses . . . . .	\$582 13
Taxi to and from Bank . . . . .	232 70

814 83

## Other services and expenses:

Miscellaneous . . . . .	\$516 70
Telephone . . . . .	2,097 49
Rent . . . . .	9,175 83
Water and ice . . . . .	124 24
Water cooler . . . . .	14 00
Cleaning and janitor services . . . . .	1,924 91
Towels . . . . .	147 80
Lighting . . . . .	266 14
Subscriptions to daily papers . . . . .	172 82
Special services (labor and police) . . . . .	884 20
Commissions as justices of the peace . . . . .	17 00

15,341 13\$842,805 45

The total amount available for 1924 was \$846,149.34.

The following comparative statement for the years 1923 and 1924 shows very plainly the increase of work as occasioned by additional registrations and licenses, etc.: —

	1923.	1924.
Passenger car registrations . . . . .	482,645	580,489
Highest number plate assigned . . . . .	404,281	482,780
Commercial registrations . . . . .	83,505	91,826
Highest number plate assigned . . . . .	B76,112	B84,926
Motor cycle registrations . . . . .	11,733	10,778
Highest number plate assigned . . . . .	10,693	10,087
Trailer registrations . . . . .	628	672
Motor cycle dealers' registrations . . . . .	52	48
Manufacturers' or dealers' registrations . . . . .	1,820	1,961
Additional cars (dealers) . . . . .	3,626	6,106
Repairers . . . . .	136	113
Licenses to operate:		
Original . . . . .	120,254	120,259
Renewal . . . . .	416,565	500,180
Total licenses . . . . .	536,819	620,439
Examinations . . . . .	159,121	159,006
Copies of certificates and licenses issued . . . . .	31,897	33,599
Duplicate automobile number plates . . . . .	14,683	12,864
Duplicate motor cycle number plates . . . . .	260	25
Miscellaneous applications . . . . .	132	8
Total number of applications handled . . . . .	1,206,803	1,397,675
Total fees . . . . .	\$6,989,633 25	\$8,122,166 00
Motor vehicle fees rebated (deducted) . . . . .	74,275 01	98,000 25
Net fees . . . . .	\$6,915,358 24	\$8,024,165 75
Court fines received by the Treasurer and Receiver		
General . . . . .	356,766 54	521,060 29
Total receipts credited motor vehicle fees ac-		
count . . . . .	\$7,272,124 78	\$8,545,226 04
Personal Services . . . . .	382,015 07	462,678 25
Expenses . . . . .	325,229 30	380,127 20
Total expenses . . . . .	\$707,244 37	\$842,805 45



# DIVISION OF WATERWAYS AND PUBLIC LANDS.

## BOSTON HARBOR.

### THE COMMONWEALTH FLATS AT SOUTH BOSTON.

#### *Commonwealth Pier No. 5.*

During the year various repairs and improvements have been made at the pier. The cleaning and painting of a portion of the structural steel and other metal work, under contract of Sept. 13, 1923, with Steves Lacios Company was completed June 24, 1924, at a cost of \$40,318.29. On July 2, 1924, a contract was made with the same company to complete the painting of the pier. The contract provided for painting the steel work on the second floor, the stairways, elevators, pipes, doors, and sash on the pier and the wood work and steel of the heating plant. This work was completed Oct. 8, 1924, at a cost of \$18,428.52.

Under an agreement with George F. DeLeskey and Son repairs and alterations are being made to the head house at its connection with the roof of the pier, including new and higher flashing, the replastering of a portion of the exterior wall and repairs to the roof of the head house.

Extensions to the sprinkler system have been provided by the Grinnell Company upon the second floor of the east shed, for better fire protection of the carpenter shop and offices of the steamship agents. The cost of this work was \$241.90. Cargo hoist structures have been equipped with special steel castings in place of eye bolts. Repairs, replacements and adjustments have been made by the Kinnear Manufacturing Company to all Kinnear doors at a cost of \$1,272. On the second floor of the pier 296 square yards of granolithic pavement has been patched at a cost of \$1,480. At the heating plant four differential draft gauges, two C O<sub>2</sub> recorders and an integrating flow meter have been installed upon the recommendation of the Commission on Administration and Finance. Under agreement with the William L. Miller Company a belay post was replaced on the east platform at a cost of \$198.

To provide additional room for the Registry of Motor Vehicles a contract was made Aug. 20, 1924, with Casey and Darcy Company for the construction on the second floor of the east side of the pier of a room about thirty-one feet by thirty-nine feet. This requires the removal of two Ogden doors on the outside wall, the building of plastered terra cotta walls, and the installation of equipment for lighting and heating. The work is now in progress.

On the west side of the pier the file room on the second floor and the room on the second mezzanine floor have been fitted as drafting rooms for the use of the Division of Highways and the necessary equipment for heating and lighting installed.

On Oct. 20, 1924, a contract was made with the Bay State Dredging and Contracting Company for dredging to a depth of 40 feet below mean low water about 30,000 cubic yards of material from the west dock at the pier. The contract prices for this work are: for dredging 46 cents per cubic yard; for removing boulders, \$20 per cubic yard. This work is now nearly completed.

#### *Development of Land South of Summer Street.*

Occupancy of the storehouses on D and E Streets (formerly the Army Stores) has been as follows:—two sections of Storehouse No. 1 were occupied by the Federal Government, and the remaining five under lease by the Terminal Wharf and Railroad Warehouse Company; storehouse No. 2 has been occupied by the United States Post Office Department and by the Division of Highways of the Department of Public Works.

Minor repairs to these buildings have been made during the year by the Division's forces and also repairs to the roof of Storehouse No. 1 under contract with L. B. Renfrew Gray at a cost of \$1,037.95.

Under date of Jan. 25, 1924, an agreement was made for the sale to U. T. Hungerford Brass & Copper Company of 1,684.48 square feet of land on the easterly side of D Street.

Under date of Apr. 9, 1924, an agreement was made for the sale to E. Kohler, M. C. Kohler and L. B. Kohler of 16,000 square feet of land on C and Claflin Streets.

*South Bay, Roxbury.*

Under date of Mar. 3, 1924, a lease of land, wharf and a portion of the adjacent dock was granted to Batchelder Bros., Inc., for a term of ten years with a provision for renewal for a further period of ten years.

## DRY DOCK AT SOUTH BOSTON.

*Claims of Holbrook, Cabot & Rollins Corporation.*

The decision of the Board of Review, consisting of the Attorney-General, the State Treasurer and the Commissioner of Public Works, appointed under chapter 74 of the Resolves of 1923 to investigate the claim of Holbrook, Cabot & Rollins Corporation against the Commonwealth for damages on account of the construction of the dry dock at South Boston was filed with the Governor and Council Dec. 31, 1923. (House, No. 1320 of 1924.)

A review of the claims of the contractor and the counter claims of the Commonwealth resulted in findings of amounts due to the contractor and to the Commonwealth, with a balance due the contractor of \$17,788.83, which the board found that the Commonwealth, in equity and good conscience, should respond in damages to the Holbrook, Cabot & Rollins Corporation.

On Jan. 7, 1924, the Holbrook, Cabot & Rollins Corporation executed a release, discharging the Commonwealth from all further claims, in consideration of the payment by the Commonwealth of \$17,788.83, in full satisfaction of all claims for damages on account of the construction of the Commonwealth dry dock at South Boston.

The Commonwealth also paid to the Holbrook, Cabot & Rollins Corporation the balance of \$5,000, retained percentage under the contract of June 22, 1914.

## THE COMMONWEALTH FLATS AT EAST BOSTON.

*Aircraft Landing Field.*

Chapter 368 of the Acts of 1924 authorized the Division to expend not exceeding \$9,000 for grading and filling additional land at this field. Much of the work was done by the use of cinders placed about six inches deep before rolling. The cinders used in the work were paid for by the Division but the work was done by employees of the Federal, State and city governments, acting under the supervision of Capt. Louis R. Knight, Army Air Officer of the First Corps Area. Tractors, an operator and laborers were furnished by the Federal Government, a mechanically operated scraper, laborers and supervision by the State, and a steam roller, a road scraper and laborers were supplied for a time by the city.

The appropriation was spent largely in subgrading, increasing the cinder covered areas adjacent to the runways, and in surface drainage. Some of the uneven high ground adjacent to the runways was sloped to decrease danger in landing. The area between the outer end of the approach roadway and the hangars was subgraded as well as a strip 150 feet wide extending along the rear of the hangars. The surplus material resulting from this work was placed between hangars Nos. 1 and 2, and 3 and 4.

The area covered with cinders in front of the hangars and easterly of them was enlarged to connect with the runways, the width of the cinder covered runways was increased and the angle at their intersection removed by a well rounded connection. Cinder filling was also placed in the depressions in the roads and runways previously surfaced.

Drainage was provided for the low land south of the hangars by digging an open ditch about 1,200 feet long to connect with tide water, and the roadway of approach to the field was drained by a ditch upon its westerly side.

The maintenance of the field is entirely under the control of the Federal Government.

Under authority of Chapter 383 of the Acts of 1924 an additional area adjacent to and easterly of the present air plane landing field has been leased to the United States. This area is to be used for hangars and as a landing place for hydroplanes.

During their homeward flight the World Air Flyers landed at this field Sept. 6, 1924.

Amount expended during the year, \$11,757.37. Total expenditures to Dec. 1, 1924, \$68,305.02.



*Dredging, Filling and Bulkheads.*

The filling of the flats at East Boston under contract of June 20, 1923, with the Atlantic, Gulf and Pacific Company was completed Dec. 24, 1923. Material to the amount of 960,735 cubic yards was dredged and placed as filling in the extension of the easterly dike between the Central Basin and the bulkhead northerly of Bird Island Flats and as a dike back of the low portion of this bulkhead. The cost of the work done during the year was \$78,629.40. The total cost of the work was \$217,872.17.

Under contract of Feb. 20, 1923, with Coleman Bros., Inc., for the placing of filling, the work of strengthening the bulkhead westerly of Governor's Island was completed Jan. 9, 1924. In continuation of this contract filling was also placed back of the bulkhead on the southerly side of the Central Basin. In all 188,939 cubic yards of material was placed and all work under the contract completed Oct. 4, 1924, at a cost of \$18,893.90.

In September a break in the harbor bulkhead northerly of Bird Island Flats was repaired under an agreement with the William L. Miller Company at a cost of \$7,683.40.

*East Boston Rail Connections.*

No new work has been done this year in extending the railroad tracks of the Commonwealth. Additional gravel has been placed to protect a portion of the road bed and repairs have been made to the connections of the service tracks to the Mead-Morrison Manufacturing Company and to the Edison Lamp Works of the General Electric Company.

**COMMONWEALTH PIER NO. 1, EAST BOSTON.**

The work of painting the wooden shed under contract of Nov. 22, 1923, with Maurice M. Devine was completed Mar. 29, 1924, at a cost of \$1,925.00. This contract included the painting of the exterior of the shed, 140 feet wide by 400 feet long, the outside and inside surfaces of sliding doors, rolling steel shutters, skylights and other metal surfaces.

Repairs found necessary to the roof were made under an agreement with W. A. Murtfeldt Company at a cost of \$856.00. In December repairs were made to the doors and door equipment of the pier shed under an agreement with William H. Ellis and Son Company at a cost of \$1,018.66.

Three broken dolphins remaining near the site of the pier were removed in June by W. S. Rendle and Son Company at a cost of \$200.00.

**ANCHORAGE BASIN.**

Dredging under contract of Nov. 15, 1923, with the Bay State Dredging and Contracting Company was completed Jan. 25, 1924, at a contract cost of \$10,991.64. Two shoal areas were removed to provide a depth of 30 feet at mean low water over the entire triangular area between the anchorage basin and the main ship channel.

Amount expended during the year, \$8,371.22.

**NEPONSET RIVER.**

Dredging between the new Neponset highway bridge and Godfrey's Coal Wharf in Milton, under contract of Aug. 20, 1923, with the Bay State Dredging and Contracting Company was completed Aug. 2, 1924, at a contract cost of \$52,954.86. This work was authorized by Chapter 353 of the Acts of 1923.

During the progress of the work rock was encountered on the south side of the channel at and above Forbes Wharf at Milton Lower Mills. To avoid this rock the channel was moved northerly about 25 feet and maintained at the full width of 75 feet. Dredging operations were suspended in January, 1924, when the work was practically finished. A survey made in March showed that considerable shoaling had occurred during the winter in the upper portion of the channel, particularly in the mooring basin near Vose's Grove. This shoaling was removed by the contractor during the summer.

Amount expended during the year, \$30,347.76. Total expenditure to Dec. 1, 1924, \$101,531.09.

## PEMBERTON POINT, HULL.

The work of building the breakwater authorized by chapter 440 of the Acts of 1923 was completed June 26, 1924, under contract of Sept. 25, 1923, with William R. Farrell. A total length of 2,396 feet of wall was built under this contract. In some portions of the work old walls of good construction were tied by the use of metal dowels and incorporated in the work. Large granite blocks varying in weight from one-half to four tons were used as riprap protection. The easterly section of the wall was protected by stone jetties and continuous riprap; the westerly section by stone jetties only.

To enable the Selectmen to place steps at this wall to give access to the beach, eye bolts were set in the face of the coping of the wall opposite Helen Street, and in the face and rear of the wall opposite Channel Street. To these eye bolts wooden steps furnished by the town have been secured. Amount expended during the year \$64,065.76. Total expenditure to Dec. 1, 1924, \$90,250.98.

## QUINCY BAY.

On Dec. 3, 1923, a contract was made with William R. Farrell for breaking up and removing boulders from the flats easterly of the Quincy Shore Reservation at Atlantic. The contract price for this work was the lump sum of \$3,700.

Under this contract 47 boulders were removed to a depth of one foot below the level of the adjacent flats and a number of smaller stones taken from different points in the bay. Work was completed Mar. 27, 1924.

Amount expended during the year, \$3,955.20. Total expenditure to Dec. 1, 1924, \$54,416.37.

## RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR.

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation of \$50,000 was made during 1924 with the following condition: "provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations and individuals."

An appropriation of \$25,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Division during the year for surveys and improvements in the following localities: Annisquam River, Gloucester; Herring River, Harwich; Ipswich River, Ipswich; Lewis Bay, Barnstable; Manchester Harbor, Manchester; Mitchell's River, Chatham; Nobscusset Harbor, Dennis; Rockport Harbor, Rockport; Sand Hills, Scituate; West Bay, Barnstable; West Dennis, Dennis; West Falmouth Harbor, Falmouth; Witchmere Harbor, Harwich.

Public hearings have been held, certain surveys and estimates of cost made, but no work has been done to carry out improvements petitioned for at Herring River, Harwich; Lewis Bay, Barnstable; Mitchell's River, Chatham; Nobscusset Harbor, Dennis; Rockport Harbor, Rockport; West Bay, Barnstable; West Dennis, Dennis; West Falmouth Harbor, Falmouth.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, in previous reports of this Division, and in the tables in the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of the work done during the year 1924, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:



## ANNISQUAM RIVER, GLOUCESTER.

Hearing was held Feb. 27, 1924, upon the petition of John A. Stoddart for dredging an anchorage basin on the westerly side of Annisquam River opposite City Ledge.

On Nov. 6, 1924, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water an anchorage basin and shoal in this river in a location about 1,500 feet northwesterly of the Blynman Bridge. The contract prices are: for dredging the areas and disposing of the dredged material at sea, 42 cents for each cubic yard, scow measurement; for removing and disposing of boulders \$20 for each cubic yard.

Toward the cost of the work a contribution of \$3,000 is to be made by the city of Gloucester. This work is now in progress. Amount expended during the year \$132.38. Total expenditure to Dec. 1, 1924, \$116,801.99.

## BASS RIVER, DENNIS AND YARMOUTH.

The work of repairing the easterly jetty, under contract of July 19, 1923, with William H. Connor and Son Company was completed June 21, 1924. This work replaced 1,065.6 feet of jetty by a concrete wall at a contract cost of \$14,844.21.

In January 1924, an agreement was made with George W. Starbuck for certain work not covered by the contract of 1923. Under this agreement about 50 linear feet of stone jetty was repaired by placing concrete in bags below low water. Minor repairs were also made to the timber jetty. The cost of work under this agreement was \$469.02.

An examination of the jetty made in the spring showed the need of further repairs. On June 16, 1924, a contract was made with George W. Starbuck for the construction of 750 linear feet of concrete wall upon the existing stone and timber jetty. The contract price for furnishing all labor and materials and for constructing the concrete wall, including the removal and disposal of old timber, furnishing of forms to remain in place, excavation and all incidental work was \$22.70 for each cubic yard of concrete measured in the completed work. A total length of 704 feet of jetty was repaired under this contract. Work was completed Sept. 26, 1924, at a contract cost of \$8,984.21.

Under these two contracts 1,769.5 feet of old timber jetty was replaced by a concrete wall. Amount expended during the year \$22,240.19. Total expenditure to Dec. 1, 1924, \$115,390.70.

## BEVERLY HARBOR.

The work of dredging by the Federal Government in this harbor under contract dated September 25, 1923, was completed Oct. 22, 1924. The original project included the removal of approximately 3,700 cubic yards of ledge, but no contract has been made for this part of the work.

Toward the cost of this work the Commonwealth paid to the Federal Government \$50,000 under authority of chapter 12 of the Resolves of 1922, and contributions aggregating an equal amount were made by the city of Beverly, the New England Fuel and Transportation Company and the Gulf Refining Company.

## BRANT ROCK, MARSHFIELD.

The extension of the sea wall north of Brant Rock and the building of spur jetties, included in contract of Oct. 15, 1923, with Frank H. Barry, was completed Aug. 21, 1924. A total length of 150 feet of concrete wall was built, the face of the old rubble wall about 1,200 feet long was pointed up to a height of about 6 feet above the surface of the beach, and 52 concrete spur jetties were built in front of the old wall and the concrete extension. The total cost of the work was \$11,972.25. Toward this cost a contribution of \$2,000 was made by the town of Marshfield.

An inspection made in August showed need of repairs to the sea wall south of the Brant Rock House. Under an agreement with Frank H. Barry, the entire face of this granite sea wall, about 1,000 feet long, was pointed up as well as exposed sections of the back of the wall. The cost of this work was \$750. The town of Marshfield is to make a contribution of \$250 toward this cost.

Amount expended during the year \$12,722.25. Total expenditure to Dec. 1, 1924, \$18,178.75.

## BUCKS CREEK, CHATHAM.

The contract of July 19, 1923, with W. H. Connor and Son Company for dredging a channel and building a pile and timber jetty in extension of the present westerly jetty, provided for the completion of the work on or before Oct. 1, 1923. At this date no work had been done. As the contractor failed to begin work in May, in response to the order of the Division, this contract was terminated.

On June 12, 1924, a contract was made with George W. Starbuck for building about 400 feet of pile and timber jetty on the westerly side of the entrance to this harbor. The contract price for furnishing materials and building this jetty, including pile cluster at the outer end, connection with existing jetty, and all incidental work, was \$18.27 per linear foot of pile and timber jetty in place. This work was completed Nov. 22, 1924, at a contract cost of \$7,436.41.

No further contract has been made for the dredging included in the contract of July 19, 1923. Amount expended during the year \$7,281.85. Total expenditure to Dec. 1, 1924, \$38,415.34.

## CHATHAM HARBOR, CHATHAM.

During the progress of the dredging in Pleasant Bay, Orleans, under contract of June 5, 1924, with William E. Burke, the Selectmen of Chatham asked that the excavation be extended to a portion of Pleasant Bay, Chatham.

On Aug. 28, 1924, a contract was made with William E. Burke for dredging a channel through two shoals in Chatham Harbor to a depth of 6 feet at mean low water and a width of 100 feet on the bottom. The contract prices for this work were: for dredging and disposing of the dredged material 46 cents per cubic yard; for removing and disposing of boulders \$12 per cubic yard. The work was completed Oct. 14, 1924, at a contract cost of \$2,164.30. Toward this cost a contribution of \$600 was made by the town of Chatham.

Amount expended during the year \$2,039.68. Total expenditure to Dec. 1, 1924, \$2,039.68.

## COHASSET HARBOR.

The work of dredging in this harbor under contract of Aug. 16, 1923, with William E. Burke was completed July 12, 1924, at a contract cost of \$8,269.20. The entire length of the entrance channel has now been dredged to a depth of 6 feet at mean low water and a width of 90 feet on the bottom. Amount expended during the year \$9,081.97. Total expenditure to Dec. 1, 1924, \$66,193.65.

## CONNECTICUT RIVER.

*Hadley.* — By the provisions of section 620A of Chapter 510 of the Acts of 1924, the Division was authorized to expend for repairing damages to the bank of Connecticut River in Hadley a sum not exceeding \$15,000, provided that before the work began the town of Hadley paid \$4,500 into the treasury of the Commonwealth to be used as a part of the \$15,000 authorized.

On Oct. 2, 1924, a contract was made with Charles I. Hosmer for furnishing and placing stone riprap on the southerly bank of Connecticut River north and west of the northerly end of West Street in the town of Hadley. The contract price for furnishing and placing riprap, grading bank, removing fallen trees, drift stumps and bushes, and all incidental work, was \$2.95 per ton of stone in place on the bank of the river. The work was completed Nov. 19, 1924, and included the protection of 1,625 feet of river bank and the placing of 20.05 tons of stone to repair breaks in riprap placed some years ago. The total contract cost of the work was \$14,219.15. Toward this cost the town of Hadley made the required contribution of \$4,500. Amount expended during the year, \$12,659.96. Total expenditure to Dec. 1, 1924, \$110,400.90.

*Northfield.* — The protective work upon the westerly bank of Connecticut River, north of Schell's Bridge, under contract of Nov. 22, 1923, with Thomas Aquinas Dollard was completed June 13, 1924, at a contract cost of \$3,663.98. By this work about 350 linear feet of river bank was protected by riprap. Amount expended during the year \$3,564.18. Total expenditure to Dec. 1, 1924, \$3,662.28.



## HERRING RIVER, WELLFLEET.

The work of dredging a channel through Herring River marshes to straighten and deepen the existing channel between High Toss Bridge and the Herring Weir, under contract of Oct. 3, 1923, with William E. Burke, was discontinued April 21, 1924, as the funds available had been practically exhausted. By the provisions of Item 632A of chapter 510 of the Acts of 1924, an additional appropriation of \$2,700 was made to continue the dredged channel to the railroad, a distance of about 1,500 feet. The contractor has not yet resumed this work. Amount expended during the year, \$8,487.30. Total expenditure to Dec. 1, 1924, \$30,514.72.

## IPSWICH RIVER, IPSWICH.

Hearing was held July 17, 1924, upon a petition of the Selectmen of Ipswich, and others, for dredging a channel from Nabby's Point to Bailey's Wharf and for the removal of boulders from this part of the river.

On Sept. 12, 1924, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 4 feet at mean low water a channel from Nabby's Point to Averill's Wharf, a distance of about 2,800 feet, to a width of 60 feet on the bottom with an enlargement of 75 feet at the turn near Heard's Point. The contract prices for this work were: for dredging the channel and disposing of the dredged material 85 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This dredging was completed, except for a short distance near Averill's Wharf, on Nov. 24, 1924, at a contract cost of \$9,466.20. Toward this cost a contribution of \$2,800 was made by the town of Ipswich. Amount expended during the year \$3,528.48. Total expenditure to Dec. 1, 1924, \$51,847.40.

## MANCHESTER HARBOR.

Hearing was held Feb. 27, 1924, upon a petition of the Selectmen of Manchester for further dredging.

On July 2, 1924, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel 60 feet wide on the bottom and 8 feet deep at mean low water in Manchester Harbor from the 8-foot contour in the outer harbor to the railroad bridge, a distance of about 4,500 feet. The contract prices for this work were: for dredging channel and disposing of the dredged material, 40 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the work a contribution of \$6,000 has been made by the town of Manchester. Amount expended during the year \$10,088.60. Total expenditure to Dec. 1, 1924, \$133,422.35.

## NANTUCKET HARBOR.

Hearing was held Feb. 27, 1924, upon a petition of Arthur W. Jones, and others, for dredging in Nantucket Harbor.

On May 2, 1924, a contract was made with Herbert T. Gerrish to dredge about 23,500 cubic yards of material from areas lying north of the Steamboat Wharf in Nantucket Harbor to a depth of 4 feet at mean low water. The contract prices for this work are: for dredging the areas and disposing of the dredged material the sum of 67 cents for each cubic yard of material dredged and deposited upon the shore measured in situ; for removing and disposing of boulders \$35 per cubic yard.

Work was begun under this contract on May 24, 1924, but was suspended in July on account of lack of area for the deposit of the material remaining to be dredged. Arrangements have since been made with the contractor to complete the dredging and dispose of the dredged material at sea, but work has not yet been resumed. Toward the cost of the work under this contract a contribution of \$4,000 was made by the town of Nantucket and by individuals and organizations interested in the dredging. Amount expended during the year, \$12,984.36. Total expenditure to Dec. 1, 1924, \$56,053.39.

## NAUSET HARBOR, TOWN COVE, NAMEQUOIT RIVER AND PLEASANT BAY, ORLEANS.

Hearing was held on Feb. 27, 1924, upon petitions of the Selectmen of Orleans and others, for dredging a channel from Nauset Harbor to Town Cove and a channel in Pleasant Bay and Namequoit River.

On June 5, 1924, a contract was made with William E. Burke for dredging channels to a depth of 6 feet at mean low water and a width of 60 feet on the bottom, through shoals in the channel from Nauset Harbor to Town Cove, and through shoals in Namequoit River and Pleasant Bay, Orleans. The contract prices for this work are: for dredging the areas and disposing of the dredged material 46 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$12 per cubic yard. The dredging in Nauset Harbor and Town Cove was completed Sept. 16, 1924, but the work in Namequoit River and Pleasant Bay is still in progress. Toward the cost of the work under this contract a contribution of \$7,000 was made by the town of Orleans.

Amount expended during the year at Nauset Harbor and Town Cove, \$6,838.04; total expenditure to Dec. 1, 1924, \$9,509.28. Amount expended during the year at Namequoit River and Pleasant Bay, \$6,881.83; total expenditure to Dec. 1, 1924, \$13,147.04.

## PAMET RIVER, TRURO.

An inspection made in January 1924, showed considerable damage by the current in the river and the action of the sea, to the narrow strip of land between the old channel of Pamet River and the channel dredged by the Commonwealth. Some immediate repairs were necessary to check the action of the sea until the protective work at the outlet could be extended. Under an agreement with W. H. Connor and Son Company sand bag protection was provided at the locations where the need was urgent. The work was completed Feb. 2, 1924, at a cost of \$1,329.62.

On June 13, 1924, an agreement was made with J. W. Nickerson to furnish all labor and equipment necessary to construct timber crib work ballasted with stone at the inshore end of both jetties. This work was completed Nov. 21, 1924, at a cost of \$4,187.20. Amount expended during the year, \$5,516.82. Total expenditure to Dec. 1, 1924, \$197,976.77.

## PLYMOUTH HARBOR.

Under the provisions of Chapter 46, Resolves of 1923, a payment of \$51,000 was made by the Commonwealth to the United States toward the cost of the improvement of this harbor under a project of the Federal Government.

This project covers the dredging of a channel 150 feet wide on the bottom and 15 feet deep at mean low water, extending in a northwesterly direction about 900 feet from a point off the site of the Steamboat Wharf, with a turning basin 300 feet square at the upper end. This work was contingent upon the construction of a satisfactory terminal by the town of Plymouth. This terminal is now being built, but the bulkhead and dike are not ready to receive the dredged material which the contractor is to deposit to make a solid filling. A contract has been made by the War Department for this dredging but no work has yet been done.

## PILGRIM TERCENTENARY COMMISSION.

On July 17, 1924, by vote of the Governor and Council, jurisdiction over the property acquired by the Pilgrim Tercentenary Commission at Plymouth was transferred to the Division of Waterways and Public Lands. Future care and maintenance of a part of this land was previously provided for under agreements made by the Tercentenary Commission with the Town and with the Pilgrim Society. The records, plans and files of the Commission have been given into the care of the Division.

A recommendation has been made for legislation granting to the Division certain powers and duties in connection with this property.



## PROVINCETOWN SHORE PROTECTION.

The work of placing riprap protection along the shore in front of the State highway at Provincetown, under contract of Nov. 19, 1923, with Nickerson and Edwards was completed July 16, 1924. Under this contract 1,857 linear feet of riprap protection was placed along the shore of Provincetown Harbor where the State highway runs near the shore. Part of the cost of this work was paid by the Division of Highways and part by the Division of Waterways. Amount expended during the year by the Division of Waterways, \$24,992.59; total expenditure to Dec. 1, 1924, by the Division of Waterways, \$26,210.37.

## SCITUATE SHORE PROTECTION.

The work of protecting the shores in the town of Scituate from damage by the sea has been continued during the year under the provisions of Chapter 585 of the Acts of 1920:

*Glades Sea Wall.* — Under an agreement with Frank H. Barry 15.45 tons of heavy riprap were placed in front of a section of wall where the beach is low. The cost of this work was \$92.70.

*North Scituate Sea Wall.* — The work of constructing concrete spur jetties in front of the sea wall east of Surfside Avenue, included under contract of Oct. 15, 1923, with Frank H. Barry, was completed Aug. 21, 1924, at a contract cost of \$2,450.00. Fourteen concrete spur jetties, each 25 feet long, were built under this contract.

*Sand Hills.* — In September the attention of the Division was called to the necessity for repairs to this wall. An inspection showed the face and top of the concrete wall badly cracked and eroded. Under an agreement with Frank H. Barry this wall, about 1,000 feet in length, was repaired at a cost of \$1,439.47.

*Third Cliff.* — The work of placing riprap protection at this cliff and in front of the sea wall between First and Second Cliffs, under contract of Feb. 10, 1922, with W. H. Connor and Son Company was completed Jan. 11, 1924. Under this contract riprap protection was provided for 1,450 linear feet of bluff at Third Cliff and for 300 linear feet of wall between First and Second Cliff.

Work under contract of Nov. 23, 1923, with the Fitzgibbon Company was completed Aug. 5, 1924. Under this contract riprap was placed along 1,400 feet of the cliff, completing the water front protection at Third Cliff except for a short distance of 150 feet where the owners refused to grant the Commonwealth permission to enter upon their property to do the work.

## WESTPORT HARBOR.

The work of building a stone jetty under contract of Aug. 16, 1923, with William E. Burke was completed July 12, 1924. Under this contract a stone jetty 360 feet long has been built on the easterly side of the entrance to the harbor extending from a sand bluff upon the shore to a pile of stones marking the end of a former jetty built by the Federal Government. Amount expended during the year \$13,858.63. Total expenditure to Dec. 1, 1924, \$16,429.72.

## WITCHMERE HARBOR, HARWICH.

Hearing was held on Feb. 27, 1924, upon petitions of the Selectmen of Harwich, and others, for dredging, for repairs to the easterly jetty, and for the extension of this jetty.

An inspection made at this harbor showed that both jetties were in need of repair. On Nov. 13, 1924, a contract was made with Joseph W. Nickerson to furnish and place stone in the jetty on the easterly side of the entrance to this harbor and to place stone back of the jetty on the westerly side of the entrance.

The contract prices for this work are: for furnishing and placing heavy riprap and stone chips in the easterly jetty \$7.90 for each ton of 2,000 pounds in the completed work, including the removal and disposal of old timber jetty; for furnishing and placing stone chips back of the westerly jetty, \$7.90 for each ton of 2,000 pounds in the completed work. The contractor has not yet begun this work. Amount expended during the year, \$12.00. Total expenditures to Dec. 1, 1924, \$38,567.00.

MISCELLANEOUS.

GREAT PONDS.

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the former Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds, was later given by chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Division has considered matters relating to: Alum Pond, Sturbridge; Asneconick Pond, Hubbardston; Bog Pond, Savoy; Coopers Pond, North Carver; Kendall Pond, Gardner; Kingsbury Pond, Norfolk; Lake Quinsigamond, Worcester; Little Pond, Sherborn; Long Pond, Lee; Long Pond, Rutland; Martins Pond, North Reading; Morse Pond, Wellesley; Niles Pond, Gloucester; Onota Lake, Pittsfield; Quaboag Lake, Brookfield; Shaw Pond, Otis; Silver Lake, Pittsfield; South Pond, Savoy; Yokum Pond, Becket.

A list of the lakes and ponds of the State with areas of ten or more acres, given by counties, is printed in the report of the Commission on Waterways and Public Lands on "Water Resources of Massachusetts, 1918".

Surveys have been made during the year of the following ponds:

Name.	Town.	Area surveyed (Acres).	Natural Area (Acres).	Maximum Depth (Feet).
Long Pond . .	Blandford . .	84	54.5	53.4
Long Pond . .	Rutland . .	185.96	60.37	24.3

Amount expended during the year, \$1,611.08. Total expenditure to Dec. 1, 1924, \$8,491.54.

ACCESS TO GREAT PONDS.

Two petitions relative to public access to great ponds were filed during the year in accordance with the provisions of Chapter 453 of the Acts of 1924.

On May 1, 1924, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth representing that in their opinion public necessity requires a right of way for public access to Long Pond, Blandford. No further action has been taken, but a report with recommendations will be made later to the Legislature regarding this matter.

On June 25, 1924, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth representing that public necessity requires a right of way to Glen Echo Lake in the town of Stoughton. No further action has been taken but a report, with recommendations, will be made later to the Legislature regarding this matter.

Total expenditure to Dec. 1, 1924, \$48.66.

PROVINCE LANDS.

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work has been carried on under the direction of a superintendent since 1894. To check the movement of the sand barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. This transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Nine acres of sand dunes have been covered with brush and 5½ acres of bayberry transplanted. In addition 22,000 native pines on the sod have been transplanted and 40,000 seedlings.



The sum of \$232.70 has been paid into the State treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands. Amount expended during the year, \$4,288.09. Total expenditure to Dec. 1, 1924, \$101,965.98.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS.

By chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, whereby work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Division, said data being available for other Departments of the Commonwealth.

Toward the cost of this work the Department has paid during the year \$2,999.99.

#### TOPOGRAPHICAL MAP OF MASSACHUSETTS, TOWN BOUNDARY ATLASES OF THE BOUNDARY LINES OF CITIES AND TOWNS, AND OTHER MAPS.

Under authority of Section 33, Chapter 91, General Laws, as amended by Section 2, Chapter 57, Acts of 1923, and under previous laws, 4,808 sections of the topographical map of Massachusetts, 65 maps of Massachusetts, dated 1917, 76 maps of Boston Inner Harbor, edition of 1923, 4 maps of the Cape Cod Canal, 1 map of the Province Lands at Provincetown, and 11 atlases of the boundary lines of cities and towns have been sold during the year ending Nov. 30, 1924, for which \$771.85 was received and paid into the treasury of the Commonwealth.

No town boundary atlases were distributed during the year under authority of Chapter 360, Acts of 1900, as amended by Chapter 484, Acts of 1909.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS.

By section 33, chapter 91, General Laws, the Division is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the location of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 4 stations in Gloucester; 3 stations in Dennis; 15 stations in Nantucket; 8 stations in Barnstable at Cotuit; 2 stations in Pembroke.

In addition the following triangulation stations were determined; 2 stations to locate the Harbor Line in Boston Harbor; 3 stations on a survey of Long Pond, Rutland; 1 station on the Hanover-Pembroke town line; and 5 stations in the town of Halifax. Amount expended during the year, \$754.80.

#### LICENSES AND PERMITS.

During the year 106 licenses were granted for various work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 99 permits for miscellaneous purposes. The Division also approved 64 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

RECOMMENDATIONS FOR LEGISLATION.

DIVISION OF WATERWAYS AND PUBLIC LANDS.

*Granting Certain Powers and Duties in Connection with Property of the Commonwealth in Plymouth.*

The Division of Waterways and Public Lands, having charge under section two of chapter ninety-one of the General Laws of land, structures and other property belonging to the Commonwealth acquired, built or improved by the Pilgrim Tercentenary Commission which has completed its work and made its final report, recommends certain legislation.

SPECIAL REPORTS TO THE LEGISLATURE.

Back Bay Lands, Removal of Certain Restrictions. — Report made Dec. 17, 1923, by the Attorney-General, the Commissioner of Public Works, and the Building Commissioner of Boston, under chapter 56, Resolves of 1923. (House No. 277 of 1924.)

Supervision and Regulation of the Business of transporting Persons, Freight and Property over Public Ways by Motor Vehicles. — Report made Jan. 9, 1924, by the Department of Public Works, under chapter 35, Resolves of 1923. (House No. 1225 of 1924.)

Claim of Holbrook, Cabot & Rollins Corporation against the Commonwealth, in relation to the Dry Dock at South Boston. Decision of the Board of Review, appointed under provisions of chapter 74, Resolves of 1923. (House No. 1320 of 1924.)

APPENDIX.

RECEIPTS DURING FISCAL YEAR 1924.

<i>Port of Boston Fund.</i>		
Rent under leases and permits . . . . .	\$106,869 69	
Use of Commonwealth Pier 5 . . . . .	194,100 07	
Use of Commonwealth Pier 1 . . . . .	4,586 09	
Use of Maverick Street Property . . . . .	720 00	
Use of Haywards Creek Property . . . . .	514 00	
Inspection of Dumping, Boston Harbor . . . . .	3,384 52	
Dumping at Receiving Basins . . . . .	5,775 96	
License Charges . . . . .	10,917 50	
Sale of Maps of Boston Harbor . . . . .	38 00	
Pay Station Receipts . . . . .	176 93	
Sale of Land — South Boston . . . . .	63,580 61	
Sale of Buildings — South Boston . . . . .	75 00	
		\$390,738 37
<i>Waterways Fund:</i>		
Inspection of Dumping, outside of Boston Harbor . . . . .	\$1,077 18	
License Charges . . . . .	13,570 98	
		14,648 16
<i>Income from Sundry Sources.</i>		
Use of State Pier at New Bedford . . . . .		6,128 07
Use of Province Lands . . . . .	\$232 70	
Sale of Massachusetts Atlases, Atlas Sheets, etc. . . . .	733 85	
Certified Copies of Documents . . . . .	77 00	
Sale of Specifications and Miscellaneous Plans . . . . .	83 00	
		1,126 55
Interest on Bank Accounts . . . . .		169 74
		\$412,810 89



EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1924, INCLUSIVE.

PAYMENTS.	Boston Harbor.	Common-wealth Flats at East Boston.	Common-wealth Flats at South Boston.	Castle Island Filling.	Common-wealth Pier No. 5.	Common-wealth Pier No. 6.	Dry Dock.	Haywards Creek.	Mystic River.
To Nov. 30, 1923	\$1,689,008 69 <sup>1</sup>	\$2,938,237 12	\$4,841,711 56	\$723,135 92	\$3,997,990 20	\$1,092,149 06	\$3,164,651 15	\$385,959 61	\$411,769 43 <sup>2</sup>
1924.	11,094 47								
Boston Harbor Minor Channels		200 00	-	-	-	-	-	-	32 38
East Boston Bulkhead		14,048 51	-	-	-	-	-	-	-
Railroad tracks, East Boston		6,461 84	-	-	-	-	-	-	-
Dredging and Filling		79,160 90	-	1,399 50	-	-	-	-	-
Streets, Piers and Railroad tracks		9,336 40	6,423 75	-	2,801 62	-	-	-	-
Aircraft Landing Field		11,407 49	-	-	-	-	-	-	-
Dry Dock Claims		-	-	-	-	-	5,000 00	-	-
Operation and maintenance of property		-	-	-	-	-	-	-	-
Totals	\$1,700,103 16	\$3,058,852 26	\$4,848,135 31	\$724,535 42	\$4,000,791 82	\$1,092,149 06	\$3,169,651 15	\$385,959 61	\$411,801 81

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.

<sup>2</sup> Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.

<sup>3</sup> \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1924, INCLUSIVE — Concluded.

PAYMENTS.	Malden River.	Chelsea Creek.	Commercial Point, Dorchester Bay.	Commonwealth Pier No. 1, Boston.	Commonwealth Pier No. 5, Supervision and Operation.	Commonwealth Pier No. 1, Maintenance.	Maintenance of Property of Commonwealth.
To Nov. 30, 1923	\$32,268 70 <sup>4</sup>	\$60,519 88	\$53,213 10	\$1,191,274 26	\$633,669 44	\$48,729 60	\$347,360 03
1924.							
Boston Harbor Minor Channels	-	-	-	-	12,157 63	-	-
East Boston Bulkhead	-	-	-	-	-	-	-
Railroad tracks, East Boston	-	-	-	-	-	-	-
Dredging and Filling	-	-	-	-	-	-	-
Streets, Piers and Railroad tracks	-	-	-	-	-	-	-
Aircraft Landing Field	-	-	-	-	-	-	-
Dry Dock Claims	-	-	-	-	104,325 44	7,738 08	84,776 06
Operation and maintenance of property	-	-	-	-	-	-	-
Totals	\$32,268 70	\$60,519 88	\$53,213 10	\$1,191,274 26	\$750,152 51	\$56,458 68	\$432,136 09

Grand total, \$21,968,002.82.

<sup>4</sup> Expended by United States government, \$31,000; contribution by Standard Oil Company of New York, \$600.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS, FROM 1893 to 1924, INCLUSIVE.

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Cottage Park Channel, Winthrop, Dredging . . . . .	\$1,000 00	\$22,012 08
Dorchester, easterly shore, Boston, Dredging . . . . .	1,000 00	84,780 47
Harbor View, Boston, Dredging . . . . .	—	146 00
Hingham Harbor, Dredging . . . . .	6,500 00	41,595 12
Houghs Neck Channel, Quincy, Dredging . . . . .	3,500 00	28,489 58
Island End River, Everett, Survey . . . . .	—	264 10
Jeffries Point Channel, Dredging . . . . .	—	2,961 90
Mystic River (near Lawrence & Wiggin's wharf), Dredging . . . . .	—	5,927 70
Neponset River, Dredging . . . . .	10,000 00	101,531 09
Old Harbor Cove, Dredging . . . . .	—	9,821 69
Orient Heights Channels, Dredging . . . . .	—	45,323 67
Pemberton Point, Hull, Breakwater . . . . .	60,000 00	90,250 98
Pleasant Park Yacht Club Channel, Dredging . . . . .	—	3,154 92
Point Shirley, Dredging . . . . .	—	3,713 37
Quincy Bay, Dredging . . . . .	3,000 00	54,416 37
Shirley Gut, Boston and Winthrop, Dredging . . . . .	—	2,110 96
South Boston, southerly shore, Dredging . . . . .	—	129,542 08
Stony Beach, Hull, Sea wall . . . . .	—	11,522 02
Weir River, Hull, Dredging . . . . .	25,000 00	130,953 51
Wessagussett Channel, Dredging . . . . .	—	815 20
Weymouth Fore River, Dredging . . . . .	—	32,759 20
Winthrop Harbor Channels, Dredging . . . . .	1,700 00	39,783 58
	<u>\$111,700 00</u>	<u>\$841,885 59</u>

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM DEC. 1, 1923, TO NOV. 30, 1924, UNDER CHAPTER 91 OF THE GENERAL LAWS.

Location and Character of Work.	Contributions.	Expenditures.
Annisquam River, Survey . . . . .	—	\$132 38
Bass River, Dennis and Yarmouth, Jetty . . . . .	—	12,619 37
Brant Rock, Marshfield, Sea wall . . . . .	\$2,000 00	12,722 25
Bucks Creek, Jetties, survey and dredging . . . . .	—	7,281 85
Cohasset Harbor, Breakwater and dredging . . . . .	—	9,081 97
Connecticut River, Hadley, Protective work and diversion well . . . . .	4,500 00	12,659 96
Connecticut River, Northfield, Riprap . . . . .	—	3,564 18
Connecticut River, Springfield and West Springfield, Protective work . . . . .	—	590 81
Cotuit Harbor, Barnstable, Dredging and survey . . . . .	—	386 74
Edgartown, Survey . . . . .	—	194 00
Great Ponds, Survey . . . . .	—	1,611 08
Improvement of rivers and harbors, General expenses . . . . .	—	1,372 46
Ipswich River, Ipswich, Jetty, wall, riprap and dredging . . . . .	2,800 00	3,528 48
Lynn Harbor, Anchorage Basin, Survey . . . . .	—	15 90
Manchester Harbor, Survey, jetties and dredging . . . . .	6,000 00	10,088 60
Namequoit River and Pleasant Bay, Dredging . . . . .	5,000 00	6,881 83
Nantucket Harbor, Dredging . . . . .	4,000 00	12,984 36
Nauset Harbor and Town Cove, Dredging . . . . .	2,000 00	6,838 04
Oak Bluffs, Sea wall . . . . .	—	220 56
Pamet River, Truro, Survey, dredging and repairing jetties . . . . .	—	1,985 70



Location and Character of Work.	Contributions.	Expenditures.
Pleasant Bay, Chatham, Dredging . . . . .	\$600 00	\$2,039 68
Plymouth Harbor, Dredging . . . . .	—	420 16
Provincetown Harbor, Shore protection . . . . .	—	24,992 59
Salem Harbor, Survey . . . . .	—	139 85
Scituate, Shore protection . . . . .	31,591 32	47,383 16
Shirley Gut, Survey . . . . .	—	97 05
West Bay, Barnstable and Osterville, Jetties and dredging . . . . .	—	270 25
West Falmouth Harbor, Falmouth, Dredging . . . . .	—	67 45
West Harwich, Survey . . . . .	—	603 46
Westport Harbor, Jetty . . . . .	—	13,858 63
Witchmere Harbor, Harwich, Jetties and dredging . . . . .	—	12 00
	<hr/>	<hr/>
	\$58,491 32	\$194,644 80

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1924, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Acushnet River, Inspecton and dredging . . . . .	—	\$118,764 85
Allens Harbor, Harwich, Surveys . . . . .	—	302 00
Allens Pond, Dartmouth, Survey . . . . .	—	195 95
Annisquam River, Gloucester, Dredging, removing ledges and riprap . . . . .	—	116,801 99
Apponagansett Harbor and River, Dartmouth, Survey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Survey and Dredging . . . . .	\$1,500 00	18,554 64
Bass River, Beverly, Dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, Jetties, dredging and survey . . . . .	2,500 00	115,390 70
Beach Street, Scituate. See Scituate.		
Beverly Harbor, Dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, Sea wall . . . . .	2,000 00	18,178 75
Bucks Creek, Chatham, Jetties, survey and dredging . . . . .	2,500 00	38,415 34
Buzzards Bay, Falmouth, Survey . . . . .	—	166 11
Cataumet Harbor. See Megansett Harbor.		
Cedar Point, Scituate. See Scituate.		
Centerville River, Barnstable, Dredging . . . . .	1,500 00	7,603 22
Cohasset Harbor, Cohasset and Scituate, Breakwater and dredging . . . . .	20,691 88	66,193 65
Concord River, Billerica, Removing boulders . . . . .	150 00	1,664 59
Connecticut River, Investigation of navigation and surveys . . . . .	—	7,074 62
Connecticut River, Agawam, Protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, Survey, wall and riprap . . . . .	640 00	25,789 02
Connecticut River, Hadley, Protective work and diversion wall . . . . .	5,000 00	110,400 90 <sup>2</sup>
Connecticut River, Hatfield, Dikes and riprap . . . . .	1,000 00	14,952 57
Connecticut River, Holyoke, Marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Holyoke, Dredging and protective work . . . . .	1,015 00	7,375 70

<sup>1</sup> \$50,000 expended by U. S. Government.

<sup>2</sup> From 1333, inclusive.

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Connecticut River, Northampton, Protective work . . . . .	—	\$1,524 20
Connecticut River, Northfield, Riprap . . . . .	—	3,662 28
Connecticut River, South Hadley, Wall . . . . .	\$1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, Protective work . . . . .	—	12,510 08 <sup>1</sup>
Conservation of waters, Investigation . . . . .	—	47,765 91
Cotuit Harbor, Barnstable, Dredging and survey . . . . .	2,000 00	59,606 65
Cuttyhunk Harbor, Gosnold, Jetties and dredging . . . . .	9,000 00	70,754 18
Deacons Pond Harbor, Falmouth. See Falmouth Inner Harbor.		
Duxbury Bay and Harbor, Dredging . . . . .	2,000 00	42,602 29
East Bay, Osterville, Jetties, dredging and removing scows . . . . .	10,000 00	70,924 23
Edgartown Harbor, Survey . . . . .	300 00	3,194 76
Ellisville Harbor, Dredging . . . . .	—	17,728 48
Essex County Beaches, Survey . . . . .	—	1,000 00
Essex River, Dredging . . . . .	—	76,304 33 <sup>2</sup>
Fall River Harbor, Improvement . . . . .	—	1,130 18
Falmouth Heights, Falmouth, Sea wall . . . . .	13,000 00	51,409 13
Falmouth Inner Harbor, Dredging, jetties and wall First and Second Cliffs, Scituate. See Scituate.	14,000 00	108,707 03
Fresh Water Cove, Gloucester, Dredging . . . . .	3,300 00	17,477 53
Glades, North Scituate, Filling and riprap. See Scituate.		
Gloucester Harbor, Gloucester, Dredging and removing ledges . . . . .	7,500 00	118,994 65
Gloucester, Western Avenue, Sea wall . . . . .	35,000 00	60,000 00
Great Ponds, Survey . . . . .	—	8,540 20
Green Harbor, Marshfield, Jetties, dredging and survey . . . . .	—	76,466 85
Gun Rock Point, Hull, Breakwater . . . . .	10,000 00	65,668 52
Harbor Cove, Gloucester, Survey and dredging . . . . .	866 00	19,394 73
Herring Creek, Scituate, Survey . . . . .	—	253 76
Herring River, Harwich, Jetties and dredging . . . . .	2,500 00	56,992 16
Herring River, Wellfleet, Dikes and ditches . . . . .	10,000 00	30,514 72
Housatonic River, Sheffield, Survey . . . . .	—	2,011 29
Hull, Sea wall and survey . . . . .	8,882 06	34,140 38
Humarock Beach, Scituate, Survey. See Scituate.		
Hyannisport, Barnstable, Survey and breakwater . . . . .	2,500 00	65,017 76
Improvement of rivers and harbors, General expenses . . . . .	—	20,451 35
Ipswich River, Ipswich, Jetty, wall, riprap and dredging . . . . .	3,800 00	51,847 40
Kings Beach, Swampscott, Removal of obstruction . . . . .	—	166 41
Lake Anthony, Oak Bluffs, Jetties and dredging . . . . .	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, Investigation . . . . .	—	345 32
Lewis Bay, Barnstable, Survey and dredging . . . . .	—	28,963 21
Little Harbor, Marblehead, Dredging . . . . .	2,500 00	11,166 16
Little River, Gloucester, Survey . . . . .	—	862 93
Lobster Cove, Gloucester, Dredging . . . . .	1,500 00	50,239 86
Lynn Harbor, Anchorage Basin, Survey and dredging . . . . .	5,200 00	121,603 97
Lynn Harbor and Saugus River, Dredging and filling . . . . .	37,500 00	163,431 53
Manchester Harbor, Survey, Jetties and dredging . . . . .	57,000 00	133,422 35

<sup>1</sup> From 1891, inclusive.<sup>2</sup> \$5,000 expended by U. S. Government.



Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Mattapoissett, Survey . . . . .	—	\$255 48
Megansett Harbor, Dredging . . . . .	\$12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, Jetties, dredging and sea wall . . . . .	700 00	78,039 50
Merrimack River, Investigation and survey . . . . .	—	1,208 50
Mill River, Gloucester, Survey and dredging . . . . .	300 00	24,899 59
Mitchells River, Chatham, Survey . . . . .	—	322 96
Nahant, Survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, Dredging . . . . .	5,000 00	13,147 04
Nantucket Harbor, Dredging . . . . .	5,000 00	56,053 39
Nauset Harbor and Town Cove, Dredging . . . . .	2,000 00	9,509 28
New Bedford Harbor, Dredging . . . . .	—	18,856 57
New Bedford State Pier, Pier, shed and dredging . . . . .	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, Operation and maintenance . . . . .	—	24,613 60
Newburyport Harbor, Survey . . . . .	—	115 97
Nobscusset Harbor, Dennis, Breakwater, dredging and riprap . . . . .	1,200 00	39,778 84
North River, Marshfield, Surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, Survey . . . . .	—	704 52
North Scituate, Spur Jetties. See Scituate.		
Oak Bluffs, Removing rocks . . . . .	—	594 95
Oak Bluffs, Sea wall . . . . .	2,500 00	36,794 81
Onset Bay, Wareham, Survey and dredging . . . . .	1,000 00	15,295 89
Orleans, Survey . . . . .	—	104 18
Palmers Pond, Falmouth, Survey . . . . .	—	358 76
Pamet River, Truro, Survey, dredging and repairing jetties . . . . .	1,200 00	197,976 77
Paskamansett River, Dartmouth, Dredging and jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, Pile wharf and survey . . . . .	—	5,192 95
Pines River, Survey . . . . .	—	904 80
Pleasant Bay, Chatham, Dredging . . . . .	600 00	2,039 68
Plum Island River, Newbury and Newburyport, Survey . . . . .	—	983 31
Plymouth Harbor, Dredging . . . . .	71,794 55	275,126 03 <sup>2</sup>
Popponnessett Bay, Dredging . . . . .	—	46,252 33
Powow River, Dredging channel and riprapping wall . . . . .	—	502 94
Province Lands, Provincetown, Reclamation . . . . .	—	101,965 98
Provincetown Harbor, Shore protection . . . . .	—	26,210 37
Quansett Harbor, Orleans, Survey . . . . .	—	194 50
Red Brook Harbor, Bourne, Removing pier . . . . .	—	275 00
Revere, Stone breakwater . . . . .	—	60,397 93
Rock Harbor, Orleans, Dredging . . . . .	400 00	12,492 71
Rockport Harbor, Dredging and removing rocks . . . . .	—	13,749 02
Salem Harbor, Survey . . . . .	—	1,189 90
Salt Pond River, Eastham, Survey . . . . .	—	210 11
Salters Point, Dartmouth, Breakwater . . . . .	4,500 00	42,939 57
Sand Hills, Scituate. See Scituate.		
Sandwich Harbor, Dredging channel, riprap and jetties . . . . .	—	80,579 84
Saugus River, Lynn and Saugus, Survey and dredging . . . . .	2,000 00	20,845 17

<sup>1</sup> Paid by surety company.<sup>2</sup> \$57,000 expended under direction of U. S. Government.

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Scituate, shore protection:		
Beach Street, Scituate . . . . .	\$17,333 52	\$34,782 50
Cedar Point, Scituate . . . . .	21,446 64	36,991 60
First and Second Cliffs, Scituate . . . . .	1,797 92	12,139 85
Glades, Scituate . . . . .	12,188 98	26,925 49
Humarock Beach, Scituate . . . . .	37,816 38	56,960 63
North Scituate — Surfside . . . . .	1,512 60	16,261 31
Sand Hills, Scituate . . . . .	3,551 62	12,624 06
Third Cliff, Scituate . . . . .	65,426 34	120,028 17
Scituate Harbor, Dredging . . . . .	8,300 00	104,976 92
Scorton Harbor, Sandwich, Jetty and dredging . . . . .	500 00	17,774 34
Sesuit Harbor, Dennis, Jetty . . . . .	1,500 00	24,555 10
Shirley Gut, Survey . . . . .	—	97 05
Sippican Harbor, Marion, Survey . . . . .	—	7 17
Smith's Cove, Gloucester, Surveying and dredging . . . . .	—	5,163 02
South River, Salem, Dredging . . . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, Fenders and excavation . . . . .	—	203 42
Stage Harbor, Chatham, Dikes and survey . . . . .	—	10,803 01
Taunton River, Survey and dredging . . . . .	12,500 00	28,697 18
Taunton-Brockton waterway, Investigation . . . . .	—	5,278 18
Taunton River-Boston Harbor Canal, Survey . . . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, Survey . . . . .	—	11,786 71
Third Cliff, Scituate. See Scituate.		
Vineyard Haven Harbor, Repairing sea wall . . . . .	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, Breakwater and dredging . . . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater wall and bulkhead . . . . .	2,000 00	54,139 85
Wareham River, Survey and dredging . . . . .	5,000 00	42,567 93
Warrens Cove, Plymouth, Sea wall . . . . .	9,713 98	24,761 99
Watch Hill, Chatham, Survey and riprap . . . . .	—	14,968 75
Wellfleet Harbor, Survey and dredging . . . . .	1,500 00	17,600 29
West Bay, Barnstable and Osterville, Jetties and dredging . . . . .	10,000 00	88,690 61
West Falmouth Harbor, Falmouth, Dredging . . . . .	—	24,453 53
West Harwich, Survey . . . . .	3,000 00	11,692 65
Westfield River, Survey and jetties . . . . .	—	6,037 29
Westport Harbor, Jetty extension . . . . .	—	16,429 72
Wild Harbor, Falmouth, Jetty and dredging . . . . .	5,000 00	36,137 71
Winthrop Shore, Sea walls and protective work . . . . .	3,000 00	20,058 48
Witchmere Harbor, Harwich, Jetties and dredging . . . . .	1,000 00	38,567 00
Woods Hole, Great Harbor, Falmouth, Dredging . . . . .	1,500 00	6,968 86
Wrecks, Removal from tidewater . . . . .	—	9,187 65
Yarmouthport Harbor, Survey . . . . .	7,000 00	95,977 37
	<hr/> \$703,520 46	<hr/> \$5,550,459 01

## FEDERAL APPROPRIATIONS AND EXPENDITURES.

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1924, as shown in the following tables, furnished by the Chief of Engineers, U. S. Army: —



TABLE NO. 1. — *Localities at Present under Improvement.*

[Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1924.]

Locality.	Expenditures.	Appropriations.
Merrimack River . . . . .	\$404,466 72	\$404,466 72 <sup>1</sup>
Gloucester Harbor . . . . .	538,183 00	538,183 00 <sup>2</sup>
Beverly Harbor . . . . .	110,525 00	245,090 41 <sup>3</sup>
Salem Harbor . . . . .	71,368 66	71,368 66 <sup>4</sup>
Lynn Harbor . . . . .	471,637 00	471,637 00 <sup>5</sup>
Mystic River (upper portion) . . . . .	306,684 84	330,684 84 <sup>6</sup>
Mystic River (below mouth to Island End River) } . . . . .		
Malden River . . . . .	149,950 00	149,950 00
Boston Harbor . . . . .	12,691,903 69	12,739,827 58 <sup>7</sup>
Dorchester Bay and Neponset River . . . . .	95,008 00	95,008 00
Weymouth Fore River . . . . .	573,643 28	633,750 00 <sup>3</sup>
Weymouth Back River . . . . .	27,000 00	27,000 00
Plymouth Harbor . . . . .	366,048 77	420,459 80 <sup>8</sup>
Provincetown Harbor . . . . .	348,062 72	348,062 72
Pollock Rip Shoals, Nantucket Sound . . . . .	1,107,947 99	1,170,000 00
Nantucket Harbor of Refuge . . . . .	576,848 00	591,473 50
New Bedford and Fairhaven Harbors . . . . .	895,460 21	899,610 00
Taunton River . . . . .	204,189 18	204,189 18
Fall River Harbor . . . . .	409,664 72	412,411 49
Totals . . . . .	\$19,348,591 78	\$19,753,172 90

<sup>1</sup> Of the original amount appropriated, \$900 was carried to the surplus fund of the Treasury from previous project.<sup>2</sup> Deduction on account of \$3,900 carried to the surplus fund of the Treasury.<sup>3</sup> In addition, \$100,000 has been contributed by local interests.<sup>4</sup> Of original amount appropriated, \$1,131.34 was carried to the surplus fund of the Treasury.<sup>5</sup> Deduction on account of \$5,200 carried to the surplus fund of the Treasury.<sup>6</sup> Now consolidated as one improvement.<sup>7</sup> Including Chelsea Creek, \$46,000 transferred by authority of public resolution No. 58, June 10, 1922.<sup>8</sup> In addition, \$57,400 was expended from contributed funds.TABLE NO. 2. — *Localities in which Work is not now in Progress.*

[Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army.]

Locality.	Expenditures.	Appropriations.
Newburyport Harbor . . . . .	\$495,900 00	\$495,900 00
Sandy Bay, Cape Ann, harbor of refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,787 75	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Marthas Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Scituate Harbor . . . . .	104,590 98	104,680 00

Locality.	Expenditures.	Appropriations.
Town River . . . . .	\$37,577 41	\$37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Totals . . . . .	\$3,706,689 63	\$3,728,754 25
Recapitulation.	Expenditures.	Appropriations.
Total of Table No. 1 . . . . .	\$19,348,591 78	\$19,729,172 90
Total of Table No. 2 . . . . .	3,706,689 63	3,728,754 25
Totals . . . . .	\$23,055,281 41	\$23,457,927 15

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1924.

[The tributaries given are those now under improvement and do not include tributaries heretofore improved.]

Locality.	Expenditures.	Appropriations.
Boston Harbor proper <sup>1</sup> . . . . .	\$12,691,903 69	\$12,739,827 58
Mystic River (below mouth of Island End River) <sup>2</sup> }	306,684 84	330,684 84
Mystic River (upper portion) <sup>2</sup> . . . . . }	149,950 00	149,950 00
Malden River . . . . .		
Totals . . . . .	\$13,148,538 53	\$13,220,462 42

<sup>1</sup> Including Chelsea Creek.

<sup>2</sup> Now one improvement.



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER

CON- TRACT No.	Work.	Contractor.	Date.
44	Third Cliff, Scituate, riprap . . .	W. H. Connor & Son Company .	Feb. 10, 1922
54	East Boston, steel hangars at aircraft landing field.	Coleman Brothers, Incorporated .	Sept. 1, 1922
55	East Boston, Commonwealth railroad .	J. F. Kennedy Company . . .	Aug. 7, 1922
71	East Boston, filling . . . . .	Coleman Brothers, Incorporated .	Feb. 20, 1923
74	East Boston, dredging and filling . .	Atlantic, Gulf and Pacific Company .	June 20, 1923
78	Quincy Bay, removal of boulders . .	William R. Farrell . . . . .	Dec. 3, 1923
79	Westport Harbor, jetty . . . . .	William E. Burke . . . . .	Aug. 16, 1923
81	Bucks Creek, Chatham, dredging and building timber jetty.	W. H. Connor and Son Company .	July 19, 1923
82	Bass River, Dennis and Yarmouth, repairs to east jetty.	W. H. Connor and Son Company .	July 19, 1923
83	Commonwealth Pier No. 5, South Boston, painting.	Steves J. Lacios . . . . .	Sept. 13, 1923
84	Nepouset River . . . . .	Bay State Dredging and Contracting Company.	Aug. 20, 1923
85	Cohasset Harbor, dredging . . . .	William E. Burke . . . . .	Aug. 16, 1923
87	Pemberton Point, Hull, sea wall . .	William R. Farrell . . . . .	Sept. 25, 1923
89	Herring River, marsh drainage, Wellfleet	William E. Burke . . . . .	Oct. 3, 1923
90	Brant Rock, Marshfield, and North Scituate, wall extension and spur jetties.	Frank H. Barry . . . . .	Oct. 15, 1923
91	Commonwealth Pier No. 1, East Boston, painting.	Maurice M. Devine . . . . .	Nov. 22, 1923
92	Boston Harbor, dredging between Anchorage Basin and Main Ship Channel.	Bay State Dredging and Contracting Company.	Nov. 15, 1923
93	Provincetown Shore protection . .	Niekerson and Edwards . . . .	Nov. 19, 1923
94	Connecticut River, Northfield, riprap north of Schell's Bridge.	Thomas Aquinas Dollard . . . .	Nov. 22, 1923
95	Third Cliff, Scituate, riprap . . . .	Fitzgibbon Company . . . . .	Nov. 23, 1923
96	Nantucket Harbor, dredging . . . .	Herbert T. Gerrish . . . . .	May 2, 1924
97	Nauset Harbor, Town Cove, Namequoit River and Pleasant Bay, Orleans, dredging.	William E. Burke . . . . .	June 5, 1924
98	Manchester Harbor, dredging . . . .	Bay State Dredging and Contracting Company.	July 2, 1924
99	Bucks Creek, Chatham, timber jetty .	George W. Starbuck . . . . .	June 12, 1924
100	Bass River, Dennis and Yarmouth, repairs to east jetty.	George W. Starbuck . . . . .	June 16, 1924

## WATERWAYS AND PUBLIC LANDS, AND IN FORCE DURING THE YEAR ENDING 30, 1924.

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1924.	Total paid to Nov. 30, 1924.	Estimated Amount of Contract.
Completed Jan. 11, 1924.	Unit prices . . . . .	\$12,240 82	\$56,974 53	\$60,000 00
Completed Sept. 6, 1923.	Unit prices . . . . .	2,705 34 (extra work)	14,043 98	12,745 00
Completed Dec. 1, 1923.	Unit prices . . . . .	5,205 41	24,716 06	19,597 00
Completed Oct. 4, 1924.	For furnishing and depositing material for filling, ten cents per cubic yard.	12,891 20	18,893 90	20,000 00
Completed Dec. 24, 1923.	For dredging area at East Boston and depositing material on area to be filled, 23.97 cents per cubic yard. For dredging material brought from other portions of harbor and depositing it on area to be filled, 15 cents per cubic yard.	78,162 18	217,872 17	200,000 00
Completed Mar. 27, 1924.	Lump sum of \$3,700 . . . . .	3,700 00	3,700 00	3,700 00
Completed July 12, 1924.	For furnishing and placing heavy riprap and stone chips \$7.60 per ton of 2,000 pounds in place in completed work.	13,024 01	17,302 36	17,820 00
Contract terminated.	Dredging, 70 cents per cubic yard measured in situ. For furnishing materials and building pile and timber jetty, \$18 per linear foot of jetty in place.	-1	-1	-1
Completed June 21, 1924.	For furnishing all labor and materials and building concrete wall, \$22.70 per cubic yard of concrete measured in completed work.	11,276 95	14,844 21	11,350 00
Completed June 24, 1924.	For painting, the lump sum of \$23,000. For glazing, 20 cents for each light of glass. For reputting, 13 cents for each light of glass.	19,105 52	27,074 35	24,400 00
Completed Aug. 2, 1924.	Dredging, 59½ cents per cubic yard measured in scows. Removing boulders, \$20 per cubic yard.	28,661 66	52,954 86	52,787 00
Completed July 12, 1924.	For dredging, 60 cents per cubic yard, scow measurement. For removing boulders, \$20 per cubic yard.	8,269 20	8,269 20	7,800 00
Completed June 26, 1924.	Unit prices . . . . .	62,973 25	88,473 21	85,585 00
-	For excavating channel and disposing of material as specified, 54.7 cents per cubic yard measured in situ.	7,160 23	7,160 23	10,000 00
Completed Aug. 21, 1924.	For constructing concrete wall at Brant Rock, \$17 for each cubic yard of concrete measured in completed work. For constructing concrete spur jetties at Brant Rock, \$120 for each completed jetty fifteen feet in length. For pointing up exposed face of sea wall at Brant Rock, the lump sum of \$600.	10,353 44	10,353 44	11,550 00
	For constructing concrete spur jetties at North Scituate, \$175 for each completed jetty twenty-five feet in length.	367 50	2,450 00	
Completed May 29, 1924.	Lump sum of \$1,925 . . . . .	1,925 00	1,925 00	1,925 00
Completed Jan. 25, 1924.	Dredging, 44 cents per cubic yard, scow measurement. Removing boulders, \$20 per cubic yard.	7,565 43	10,991 64	13,064 00
Completed July 16, 1924.	Unit prices . . . . .	23,270 35	23,270 35 <sup>2</sup>	39,744 00
Completed June 13, 1924.	For furnishing and placing riprap and all incidental work, \$3 per ton of stone in place in completed work.	2,250 00	2,250 00	4,500 00
Completed Aug. 5, 1924.	For furnishing and placing stone riprap, \$3.94 per ton of 2,000 pounds.	31,602 15	31,602 15	31,520 00
In progress	Dredging, 67 cents per cubic yard deposited on shore, measured in situ. Removal of boulders, \$35 per cubic yard.	12,257 88	12,257 88	15,745 00
In progress	Dredging, 46 cents per cubic yard, measured in scows. Removal of boulders, \$12 per cubic yard.	11,253 37	11,253 37	26,000 00
In progress	Dredging, 40 cents per cubic yard, measured in scows. Removal of boulders \$20 per cubic yard.	9,180 00	9,180 00	11,000 00
Completed Nov. 22, 1924.	For furnishing materials and building pile and timber jetty, \$18.27 per linear foot of pile and timber jetty in place.	6,320 95	6,320 95	7,500 00
Completed Sept. 26, 1924.	\$22.70 for each cubic yard of concrete measured in place in completed work.	8,984 21	8,984 21	7,500 00

<sup>1</sup> See contract 99 in part substitution for contract 81.<sup>2</sup> \$24,988.02 paid by Highway Division.



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER

CON-TRACT No.	Work.	Contractor.	Date.
101	Commonwealth Pier No. 5, dredging west dock.	Bay State Dredging and Contracting Company.	July 24, 1924
101A	Commonwealth Pier No. 5, dredging west dock.	Bay State Dredging and Contracting Company.	Oct. 20, 1924
102	Commonwealth Pier No. 5 and Heating Plant, South Boston, painting.	Steves Lacios Company . . .	July 2, 1924
103	Ipswich River, Ipswich, dredging . .	Bay State Dredging and Contracting Company.	Sept. 12, 1924
104	Commonwealth Pier No. 5, South Boston, building additional office.	Casey and Darcy Company . .	Aug. 20, 1924
105	Chatham Harbor, Chatham, dredging .	William E. Burke . . . .	Aug. 28, 1924
106	Connecticut River, Hadley, riprap protection.	Charles I. Hosmer . . . .	Oct. 2, 1924
107	Annisquam River, Gloucester, dredging	Bay State Dredging and Contracting Company.	Nov. 6, 1924
108	Witchmere Harbor, Harwich, jetties .	Joseph W. Nickerson . . . .	Nov. 13, 1924

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1924.	Total paid to Nov. 30, 1924.	Estimated Amount of Contract.
Terminated Oct. 9, 1924.	Dredging, 46 cents per cubic yard measured in scows. Removal of boulders, \$20 per cubic yard. Delays caused by use of berths by vessels, \$65 per hour.	-1	-1	-1
In progress	Dredging 46 cents per cubic yard measured in scows. Removing boulders \$20 per cubic yard.	\$11,621 69	\$11,621 69	\$16,000 00
Completed Oct. 8, 1924.	For painting, the lump sum of \$11,900. For glazing, 50 cents for each light of glass. For reputting, 13 cents for each light of glass.	12,327 43	12,327 43	12,295 00
Completed Nov. 22, 1924.	Dredging, 85 cents per cubic yard, scow measurement. Removing boulders, \$20 per cubic yard.	2,856 76	2,856 76	10,500 00
In progress	Lump sum of \$5,193	2,648 43	2,648 43	5,193 00
Completed Oct. 14, 1924.	Dredging, 46 cents for each cubic yard, scow measurement. Removing boulders, \$12 for each cubic yard.	1,839 65	1,839 65	2,400 00
Completed Nov. 19, 1924.	For furnishing and placing riprap and all incidental work, \$2.95 per ton of stone in place.	12,086 28	12,086 28	14,000 00
In progress	Dredging, 42 cents per cubic yard, scow measurement. Removing boulders, \$20 per cubic yard.	-	-	11,200 00
In progress	For furnishing and placing stone chips in the easterly jetty, \$7.90 for each ton of 2,000 pounds in the completed work. For furnishing and placing stone chips back of westerly jetty, \$7.90 for each ton of 2,000 pounds in the completed work.	-	-	-

<sup>1</sup> See contract 101A in substitution.



# INDEX.

## *Department of Public Works.*

	PAGE
Appropriations . . . . .	2
Organization, under chapter 16, General Laws . . . . .	1
Personnel . . . . .	1
Recommendations for Legislation . . . . .	44, 73

## *Division of Highways.*

Advertising Signs and Devices within the Public View . . . . .	39
Bridges . . . . .	22
Contract Prices Dec. 1, 1923, to Nov. 30, 1924 . . . . .	46
Contracts signed during the Year . . . . .	10
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties . . . . .	7
Expenditures, Summary for the Year . . . . .	7
Federal Aid in Constructing Highways . . . . .	19
Allotments to Massachusetts . . . . .	19
Mileage . . . . .	20
Statement of Road Projects . . . . .	20
General Statement as to Surveys, Plans, Estimates and Other Work during the Year . . . . .	8
Highway Improvements authorized by Special Acts . . . . .	19
Contracts for Construction of Town Ways . . . . .	19
Expenditures during the Year in the Five Western Counties . . . . .	19
Petitions, Meetings and Hearings . . . . .	7
Public Ways, exclusive of State Highways, in certain Towns . . . . .	31
Allotments or Contributions by the State and Towns . . . . .	31
Expenditures in Various Counties and Towns . . . . .	34
Towns where Work has been contracted for . . . . .	31
Sale of Maps . . . . .	44
State Highways . . . . .	9
Construction and Reconstruction . . . . .	10
Contracts entered into for Work in Various Municipalities . . . . .	10
Expenditures in Various Counties and Municipalities . . . . .	16
Contracts for Reconstruction in anticipation of an appropriation . . . . .	35
Maintenance . . . . .	17
Expenditures in Various Counties and Municipalities . . . . .	17
Permits issued for Opening or Occupying State Highways . . . . .	8
Petitions received during the Year . . . . .	7, 9
Regulation of Traffic during Winter of 1923-1924 . . . . .	35
Regulation of Transportation of Personal Property by Motor Vehicles . . . . .	35
Resurfacing and Widening . . . . .	8
State Aid in Keeping Certain Highways open during the Winter Months . . . . .	35
Trees . . . . .	9
Warning Signs or Lights at Certain Dangerous Places . . . . .	37
Town and County Ways . . . . .	27
Allotments or Contributions by the State, Towns and Counties . . . . .	27
Expenditures in Various Counties and Towns . . . . .	29
Towns where Work has been contracted for . . . . .	27
Type of Road and length contracted for . . . . .	27
Traffic Count . . . . .	37

*Registry of Motor Vehicles.*

	PAGE
Accident Report Letters . . . . .	51
Aircraft Registrations . . . . .	56
Analysis of Court Abstracts received . . . . .	52
Brakes . . . . .	54
Branch Offices . . . . .	58
Comparative Statement for 1923 and 1924 . . . . .	61
Comparative Statement showing Ratio of Accidents to Yearly Registrations, Suspensions, etc. . . . .	51
Conference of Motor Vehicle Administrators . . . . .	55
Examinations for Licenses . . . . .	53
Expenditures for the Fiscal Year 1924 . . . . .	59
Headlighting . . . . .	54
Investigations and Prosecutions by Inspectors . . . . .	52
Motor Vehicle Deaths, Injuries, Collisions . . . . .	50
Number of Children killed and injured . . . . .	51
Number of Collisions . . . . .	51
Number of Persons killed and injured . . . . .	50
Rear Lamps . . . . .	54
Registrations, Licenses, Fees . . . . .	58
Analysis of Receipts . . . . .	59
Cost of Running the Registry of Motor Vehicles . . . . .	59
Court Fines received by the State Treasurer . . . . .	59
Motor Vehicle Fees Rebated . . . . .	59
Passenger Cars, Commercial Vehicles and Motor Cycles . . . . .	59
Total Receipts credited Motor Vehicle Fees Account, 1924 . . . . .	59
Revocations and Suspensions for 1923-24 . . . . .	52
Used-car Section . . . . .	56
Motor Vehicle Identification . . . . .	56
Engine Numbers assigned . . . . .	56
Motor Vehicles stolen . . . . .	56
Reports . . . . .	58
Stolen Cars in Boston . . . . .	58

*Division of Waterways and Public Lands.*

Annisquam River . . . . .	66
Bass River, Dennis and Yarmouth . . . . .	66
Beverly Harbor . . . . .	66
Boston Harbor . . . . .	62
Anchorage Basin . . . . .	64
Commonwealth Flats at East Boston . . . . .	63
Aircraft Landing Field . . . . .	63
Commonwealth Pier No. 1 . . . . .	64
Dredging, Filling and Bulkheads . . . . .	64
Rail Connections . . . . .	64
Commonwealth Flats at South Boston . . . . .	62
Commonwealth Pier No. 5 . . . . .	62
Development of land south of Summer Street . . . . .	62
Dry Dock . . . . .	63
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1924, inclusive . . . . .	75
Expenditures for Development and Improvement in Boston Harbor, 1859-1924 . . . . .	74
Neponset River . . . . .	64
Pemberton Point, Hull . . . . .	65
Quincy Bay . . . . .	65
South Bay . . . . .	63
Brant Rock, Marshfield . . . . .	66
Bucks Creek, Chatham . . . . .	67



	PAGE
Chatham Harbor, Chatham . . . . .	67
Cohasset Harbor . . . . .	67
Connecticut River . . . . .	67
Hadley . . . . .	67
Northfield . . . . .	67
Conserving and Equalizing the Flow of Water in Rivers and Streams . . . . .	72
Contracts made and in force during year ending Nov. 30, 1924 . . . . .	82
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1924, excepting Boston Harbor . . . . .	76
Expenditures and Contributions for River and Harbor Work, Dec. 1, 1923, to Nov. 30, 1924 . . . . .	75
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1924 . . . . .	79
Great Ponds . . . . .	71
Access to . . . . .	71
Herring River, Wellfleet . . . . .	68
Ipswich River, Ipswich . . . . .	68
Licenses and Permits . . . . .	72
Manchester Harbor . . . . .	68
Nantucket Harbor . . . . .	68
Nauset Harbor, Town Cove, Pleasant Bay and Namequoit River, Orleans . . . . .	69
Pamet River, Truro . . . . .	69
Pilgrim Tercentenary Commission . . . . .	69
Plymouth Harbor . . . . .	69
Pilgrim Tercentenary Commission . . . . .	69
Port of Boston Fund . . . . .	73
Province Lands . . . . .	71
Provincetown Shore Protection . . . . .	70
Receipts, 1924 . . . . .	73
Recommendations . . . . .	73
Re-establishment of Certain Triangulation Stations . . . . .	72
Rivers, Harbors, Tide Waters and Foreshores, exclusive of Boston Harbor . . . . .	65
Scituate Shore Protection . . . . .	70
Special Reports to Legislature . . . . .	73
Topographical Map of Massachusetts, Boundary Atlases and Other Maps . . . . .	72
Westport Harbor . . . . .	70
Witchmere Harbor . . . . .	70







The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

FOR THE

YEAR ENDING NOVEMBER 30, 1925







# The Commonwealth of Massachusetts

## DEPARTMENT OF PUBLIC WORKS.

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.*

Pursuant to the provisions of law the sixth annual report of the Department of Public Works for the fiscal year ending Nov. 30, 1925, is submitted.

The organization of the Department in two divisions is set forth in chapter 16, General Laws.

The personnel during the year ending Nov. 30, 1925, was as follows:—

Commissioner of Public Works, WILLIAM F. WILLIAMS.

### *Division of Highways.*

Associate Commissioner, JAMES W. SYNAN.

Associate Commissioner, FRANK E. LYMAN.

### *Division of Waterways and Public Lands.*

Associate Commissioner, JESSE B. BAXTER.

Associate Commissioner, RICHARD K. HALE.

Executive Secretary for the Department, FREDERICK N. WALES.

### *Division of Highways.*

Chief Engineer, ARTHUR W. DEAN.

Project Engineer, FRANKLIN C. PILLSBURY.

Construction Engineer, RAYMOND W. COBURN.

Maintenance Engineer, GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, D. H. DICKINSON, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

Recording Secretary for the Division, MARY A. RILEY.

Financial Secretary for the Division, FRED FAIR.

### *Division of Waterways and Public Lands.*

Senior Assistant Engineer, for Boston Harbor, JOHN N. FERGUSON.

Senior Assistant Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Recording Secretary for the Division, EDNA F. TOWNSEND.

Financial Secretary for the Division, CORA I. ALLEN.

### *Registry of Motor Vehicles.*

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Chief Clerk, CHARLES R. GILLEY.

Chief of Inspection Force, ALBERT S. OLSSON.



A detailed report is presented herewith, covering the activities for the year of the Division of Highways, the Division of Waterways and Public Lands, and the Registry of Motor Vehicles.

DEC. 1, 1925.

WILLIAM F. WILLIAMS,  
*Commissioner of Public Works.*

#### APPROPRIATIONS.

Chapter 211, Acts of 1925, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

#### *Requirements for Extinguishing the State Debt.*

Item

- |      |   |                |
|------|---|----------------|
| 215. | For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million four hundred fourteen thousand fifty-three dollars and twenty-five cents, of which sum thirty-four thousand dollars for serial bonds for the abolition of grade crossings loan and sixty thousand dollars for serial bonds for the harbor improvement loan shall be paid from unexpended balances now in the treasury of the proceeds of said loans, and two hundred and fifty thousand dollars for serial bonds for the development of the port of Boston loan shall be paid from the balance of the proceeds of the sale of the Boston dry dock out of the appropriation made by section four of chapter two hundred and twenty-five of the acts of nineteen hundred and twenty . . . . . | \$1,414,053 25 |
|------|---|----------------|

#### *Service of the Department of Public Works.*

- |   |   |              |
|---|---|--------------|
| 585.  | For the salaries of the commissioner and the four associate commissioners, a sum not exceeding thirty-one thousand five hundred dollars . . . . .   | 31,500 00    |
| 586.  | For personal services of clerks and assistants to the commissioner, a sum not exceeding thirteen thousand eight hundred dollars . . . . .   | 13,800 00    |
| 587.  | For traveling expenses of the commissioner, a sum not exceeding two thousand dollars . . . . .  | 2,000 00     |
| Division of Highways (the following appropriations for the operation and maintenance of this division, except as otherwise provided, are made from the receipts from motor vehicle fees): |   |              |
| 588.  | For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding sixty-two thousand dollars . . . . .            | 62,000 00    |
| 589.  | For traveling expenses of the associate commissioners, when traveling in the discharge of their official duties, a sum not exceeding twenty-five hundred dollars . . . . .                        | 2,500 00     |
| 590.  | For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding thirteen thousand dollars . . . . . | 13,000 00    |
| 591.  | For the care, repair and storage, replacement and purchase of road-building machinery and tools, a sum not exceeding two hundred thousand dollars . . . . .                                       | 200,000 00   |
| 592.  | For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars . . . . .  | 12,000 00    |
| 593.  | For the construction and repair of town and county ways, a sum not exceeding one million five hundred thousand dollars . . . . .  | 1,500,000 00 |

## Item

594.	For aiding towns in the repair and improvement of public ways, a sum not exceeding six hundred fifty thousand dollars . . . . .	\$650,000 00
595.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, a sum not exceeding four million five hundred fifty thousand dollars . . . . .	4,550,000 00
596.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding forty-six thousand dollars . . . . .	46,000 00
597.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars in addition to any other funds which the department has available for the purpose . . . . .	1,500,000 00
598.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the general fund . . . . .	15,000 00
598a.	For a deficit incurred in the transportation of certain equipment, a sum not exceeding forty-six hundred eighty-seven dollars and eighty-nine cents . . . . .	4,687 89
Registration of Motor Vehicles:		
599.	For personal services, a sum not exceeding five hundred forty-five thousand dollars . . . . .	545,000 00
600.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment including telephone installation, and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners of motor vehicles, a sum not exceeding four hundred ten thousand dollars . . . . .	410,000 00
Division of Waterways and Public Lands:		
601.	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand dollars . . . . .	50,000 00
602.	For necessary traveling expenses of the associate commissioners, a sum not exceeding one thousand dollars . . . . .	1,000 00
603.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding fifty-five hundred dollars . . . . .	5,500 00
604.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .	5,000 00
605.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding twenty-five thousand dollars . . . . .	25,000 00
606.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding fifty thousand dollars, of which sum not more than five hundred dollars may be expended	



	for certain aerial surveys or paid over to the federal government for expenses incurred by it in connection with such surveys, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding year for the same purposes, provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals . . . . .	\$50,000 00
607.	For re-establishing and permanently marking certain triangulation points and stations, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, a sum not exceeding one thousand dollars . . . . .	1,000 00
608.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the port of Boston receipts . . . . .	110,000 00
609.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the port of Boston receipts . . . . .	8,000 00
610.	For the maintenance and improvement of commonwealth property under the control of the division, a sum not exceeding one hundred twenty-five thousand dollars, to be paid from the port of Boston receipts . . . . .	125,000 00
611.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding fifteen thousand dollars . . . . .	15,000 00
612.	For the compensation of dumping inspectors, a sum not exceeding two thousand dollars . . . . .	2,000 00
613.	For expenses authorized by chapter four hundred and fifty-three of the acts of nineteen hundred and twenty-three, relative to access to great ponds, a sum not exceeding five hundred dollars . . . . .	500 00
614.	For services and expenses in the inspection of certain state boundary monuments, a sum not exceeding thirty-five hundred dollars . . . . .	3,500 00
615.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars . . . . .	4,000 00
616.	For the supervision and operation of the commonwealth stores, a sum not exceeding twenty-five hundred dollars . . . . .	2,500 00
	Specials:	
618.	For expenses of dredging channels and filling marsh lands, a sum not exceeding twenty-five thousand dollars, to be paid from the port of Boston receipts, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	25,000 00
619.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding nine thousand dollars . . . . .	9,000 00

*Miscellaneous.*

The following items are to be paid from the receipts from motor vehicle fees:

Item		
640.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred ten thousand five hundred dollars, representing the state's portion or one-half of the estimated cost of maintenance . . . . .	\$210,500 00
641.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing . . . . .	100,000 00
641b.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, a sum not exceeding twelve thousand five hundred dollars, representing the state's portion or one quarter of the total deficiencies . . . . .	12,500 00
642.	For maintenance of boulevards and parkways with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twenty-five thousand dollars, representing the state's portion or one-half of the estimated cost . . . . .	25,000 00
644.	For the first instalment on the part of the commonwealth for the construction of the northern traffic artery, so-called, as authorized by chapter four hundred and eighty-nine of the acts of nineteen hundred and twenty-four, a sum not exceeding three hundred thousand dollars . . . . .	300,000 00
645.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding forty-two hundred and fifty dollars . . . . .	4,250 00

*Metropolitan District Commission.*

650.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding twenty-five thousand dollars, the same to be in addition to the amount appropriated in item six hundred and forty-two . . . . .	25,000 00
653.	For services and expenses of the division of metropolitan planning, as authorized by chapter three hundred and ninety-nine of the acts of nineteen hundred and twenty-three, a sum not exceeding thirty thousand dollars . . . . .	30,000 00
657.	For maintenance of boulevards and parkways, a sum not exceeding two hundred ten thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and forty . . . . .	210,500 00
658.	For resurfacing of boulevards and parkways, a sum not exceeding one hundred thousand dollars, the same to be in addition to the amount appropriated in item six hundred and forty-one . . . . .	100,000 00
659.	For maintenance of boulevards and parkways, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, a sum not exceeding thirty-seven thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and forty-one (b), provided	



that twenty-five thousand dollars of this sum shall be assessed upon the cities of Boston and Quincy and the counties of Norfolk and Plymouth in accordance with the percentages fixed by section two of chapter two hundred and thirty-eight of the General Acts of nineteen hundred and nineteen . . . . . \$37,500 00

Chapter 347, Acts of 1925, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is in part, as follows: —

*Service of the Legislative Department and Special Investigations.*

Item  
33a. For expenses of an investigation relative to public reservations, as authorized by chapter twenty-six of the resolves of the present year, a sum not exceeding five hundred dollars . . . . . \$500 00

*Interest on the Public Debt.*

216. For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding seventy-five hundred three dollars and sixty-one cents, which sum is to be taken from the highway fund established by chapter two hundred and eighty-eight of the acts of the present year, and to be in addition to any amount heretofore appropriated for the payment of interest . . . . . 7,503 61

*Service of the Department of Public Works.*

Division of Highways (the following appropriations for the operation and maintenance of this division, except as otherwise provided, are made from the receipts from motor vehicle fees):

593. For the construction and repair of town and county ways, a sum not exceeding one hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . . 100,000 00  
595. For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general a sum not exceeding ninety-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . . 95,000 00

Registration of Motor Vehicles:

600a. For expenses authorized by chapter thirty-four of the resolves of the present year in considering the question of the publication and distribution by the commonwealth of lists of owners of registered motor vehicles and licensed operators, a sum not exceeding ten thousand dollars, the same to be paid from the highway fund established by chapter two hundred and eighty-eight of the acts of the present year . . . . . 10,000 00

Division of Waterways and Public Lands:

619a. For expenses authorized by chapter two hundred and eighty-nine of the acts of the present year to establish the Angle Tree Monument reservation, a sum not exceeding seven hundred and fifty dollars . . . . . 750 00  
619b. For expenses authorized by chapter three hundred and fifteen of the acts of the present year providing for the construction of a breakwater or sea wall at Point Allerton

in the town of Hull, a sum not exceeding twenty-five thousand dollars, the same to be in addition to contributions by the town of Hull and the county of Plymouth . . . . .	\$25,000 00
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*Miscellaneous.*

641a. For the expense of constructing a parkway or boulevard from West Roxbury parkway in Boston to Newton street in Brookline, as authorized by chapter three hundred and thirteen of the acts of the present year, a sum not exceeding one hundred and eleven thousand dollars, representing the state's portion or one-half of the estimated cost of construction, to be paid from the highway fund established by chapter two hundred and eighty-eight of the acts of the present year . . . . .	111,000 00
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*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

658a. For the expense of constructing a parkway or boulevard from West Roxbury parkway in Boston to Newton street in Brookline, as authorized by chapter three hundred and thirteen of the acts of the present year, a sum not exceeding one hundred and eleven thousand dollars, the same to be assessed upon the metropolitan parks district as a part of the cost of maintenance of boulevards and parkways, and to be in addition to the amount appropriated in item six hundred and forty-one (a) . . . . .	111,000 00
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District Attorneys:

303a. For expenses of administration under the law to require certain insurance companies to file certain data with the insurance commissioner, a sum not exceeding twenty-five thousand dollars, to be paid from the highway fund established by chapter two hundred and eighty-eight of the acts of the present year . . . . .	25,000 00
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## DIVISION OF HIGHWAYS.

### EXPENDITURES.

Summary of expenditures by the Division of Highways during the fiscal year ending Nov. 30, 1925: —

For construction of State highways, under chapter 81, General Laws, and chapter 211, Acts of 1925 . . . . .	\$2,160,567 09
For maintenance and repair of State highways, under section 13, chapter 81, General Laws, chapters 211 and 347, Acts of 1925 . . . . .	4,855,903 46
For construction and repair of town and county ways, under section 34, chapter 90, General Laws as amended, chapters 211 and 347, Acts of 1925 . . . . .	1,511,144 55
For highways in the five western counties, under chapter 221, General Acts of 1915 and chapter 572, Acts of 1920 . . . . .	81,721 26
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws as amended, and chapter 211, Acts of 1925 . . . . .	652,392 65



For the construction of a State highway in Hingham, under chapter 213, General Acts of 1916, chapter 138, Acts of 1921, and chapter 418, Acts of 1923	\$13,347 95
For the construction of a highway in the city of Revere, under chapter 501, Acts of 1922, as amended	166 52
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925	5,369 04
For administering the law relative to advertising signs near highways, under chapter 211, Acts of 1925	6,771 44
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912, and chapter 211, Acts of 1925	5,578 02
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street, in Fall River, under chapter 717, Acts of 1912, and chapter 211, Acts of 1925	31,599 53
For the care, repair and storage, replacement and purchase of road building machinery and tools, under chapter 211, Acts of 1925	200,001 94
For the suppression of gypsy and brown-tail moths on State highways, under chapter 211, Acts of 1925	11,122 26
For general expenses, under chapter 211, Acts of 1925	72,325 44
For a deficit incurred in the transportation of certain Federal Government equipment under chapter 211, Acts of 1925	4,687 89
Total	\$9,612,699 04

#### CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES.

The Division has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$2,564,861.74 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Division.

#### PETITIONS, MEETINGS AND HEARINGS.

In addition to the regular weekly meetings of the Division throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the relocation of street railway tracks in Agawam, Boston, Dartmouth, Fairhaven, Mattapoisett, Oxford, Palmer, Revere, Somerset, Sturbridge, Westwood and Wilbraham; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 67 cases; and on the matter of outdoor advertising.

Petitions were received and contracts signed during the year, as follows:—

	Petitions.	Contracts.
State highways	15	44
Work under section 34, chapter 90, General Laws, as amended	96	244
Work under section 26, chapter 81, General Laws, as amended	156	155
Totals	267	443

#### GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK DURING THE YEAR.

*State Highways.*— During the year ending Nov. 30, 1925, the Division completed work on about 25.152 miles of State highway, portions of which were laid out in 1924. Construction was commenced, but not completed, on about 7 miles of road in 11 cities and towns. Layouts were made of 44.02 miles of State highway

in 33 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 18,005 miles of State highway were discontinued. The total length of State highways at the end of the year was 1,547.702 miles.

*Surveys, Estimates and Designs.* — During the year preliminary surveys, plans and estimates were made on contemplated State highways in 30 towns covering a distance of 54.4 miles. Surveys, plans and estimates were made for resurfacing or reconstruction in 47 towns covering a distance of 98.26 miles. Lines and grades for construction on State highways were made in 27 towns covering a distance of 29.94 miles, and for resurfacing and reconstruction in 42 towns for a distance of 62.56 miles. Final surveys were made on completed State highways in 19 towns for a distance of 20.58 miles, for resurfacing or reconstruction in 21 towns for a distance of 29.22 miles, and on roads other than State highways in 43 towns for a distance of 40.65 miles. Under section 34, chapter 90, General Laws, as revised, and for roads to be constructed by the towns, surveys, plans and estimates have been made in 113 towns for a distance of 100.94 miles. Lines and grades for construction have been made in 141 towns for a distance of 87.13 miles.

Under chapter 221, General Acts of 1915, as amended, and for work under other special acts, plans and estimates have been made in 4 towns for a distance of 6.65 miles; and lines and grades for construction have been made in 1 town for a distance of 5.06 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 6 towns.

*Roads constructed in 1925.* — Construction has been completed on 25.152 miles of State highway; 127.141 miles of highways under the provisions of section 34, chapter 90, General Laws, as revised; and 5.056 miles of highways under the provisions of special acts; making a total of 157.349 miles completed during the year.

Of the above roads completed this year, 0.146 miles were of water-bound macadam; 36.369 miles were of gravel; 15.372 miles were of bituminous concrete; 70.895 miles were of bituminous macadam; 0.679 miles were of water-bound macadam with a bituminous surface treatment; 14.253 miles were of reinforced concrete; 17.855 miles were of gravel with a bituminous treatment; and 1.78 miles were of earth.

*Resurfacing, Reconstruction and Widening.* — During the year 2.208 miles of State highway were widened but not resurfaced; and 60.537 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 21.99 miles were of bituminous macadam; 13.146 miles were of bituminous concrete; 21.445 miles were of reinforced concrete; 3.804 miles were of dual type (reinforced concrete and bituminous macadam); and 0.152 miles were of water-bound macadam with a bituminous surface treatment.

*Permits.* — There were 2,430 permits issued during the year for opening or occupying State highways for various purposes.

*Tree Planting and Roadside Development.* — During the last twenty-one years 51,331 trees have been planted on the borders of State highways, of which 1,671 were planted this year, the Division continuing its policy of planting quick-growing trees and hedges to replace guard rails.

*Engineering Advice to Municipal Authorities.* — The Division furnished, without charge, engineering advice to 13 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.* — The Division approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of 93 roads in 47 towns.

*Approval of Bridge Plans.* — The Division approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of 16 bridges in 15 towns.



## STATE HIGHWAYS.

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

**SELECTMEN OF SUTTON AND OXFORD.** — Road extending from the intersection of the existing State highway in Sutton with the Mendon Road, so called, through Sutton and Oxford to the junction of Sutton and Main Streets in Oxford. Received January 16, 1925.

**MAYOR AND CITY COUNCIL OF MARLBOROUGH.** — Road locally known as East Main Street, extending from a point near the property of Mrs. J. A. Hager to Parmenter Square. Received February 21, 1925.

**SELECTMEN OF LEXINGTON.** — Road extending from the end of the existing State highway south-easterly to the railroad crossing of the Boston and Maine Railroad (Lexington Branch) at the North Lexington Depot. Received March 3, 1925.

**SELECTMEN OF STURBRIDGE.** — Road extending from the dividing line between the towns of Brimfield and Sturbridge to the end of the 1909 section of State highway at Sturbridge Village. Received March 28, 1925.

**SELECTMEN OF LENOX.** — Road extending from a point on Walker Street near its junction with the Lee Road, so called, in part over a new location easterly of said Lee Road, for the distance of about two-fifths of a mile. Received June 6, 1925.

**SELECTMEN OF TOLLAND.** — Road locally known as Farmington River or Cold Spring Road, extending from the dividing line between the towns of Sandisfield and Tolland to the Connecticut line. Received June 12, 1925.

**SELECTMEN OF ORLEANS.** — Road extending from the existing State highway in South Orleans to the existing State highway near the dividing line between the towns of Orleans and Eastham. Also a section of road and bridge, 100 feet long, in South Orleans near Pleasant Bay. Received August 4, 1925.

**COUNTY COMMISSIONERS OF BERKSHIRE COUNTY.** — Road extending from the junction of Water, Plunkett and Main Streets in Hinsdale to the junction of Maple and South Streets. Received August 18, 1925.

**COUNTY COMMISSIONERS OF BRISTOL COUNTY.** — Road extending from the Village of South Seekonk through Seekonk, Rehoboth and Swansea to a point at or near the Village of North Swansea. Received August 15, 1925.

**SELECTMEN OF WRENTHAM.** — Road locally known as South Street, extending from the dividing line between the towns of Plainville and Wrentham to a point about 650 feet distant from Wampum Corner, so called. Received October 2, 1925.

**SELECTMEN OF PLAINVILLE.** — Road locally known as South Street, extending from the dividing line between the towns of Wrentham and Plainville to a point near Cottage Street. Received October 26, 1925.

**SELECTMEN OF WESTMINSTER.** — Road locally known as the Fitchburg Road, extending from the dividing line between the city of Fitchburg and the town of Westminster to Main Street. Received October 27, 1925.

**SELECTMEN OF LEE.** — Road locally known as Centre Street, extending from a point at the westerly end of the bridge over the Housatonic River to the south-easterly end of the bridge over said river. Received November 4, 1925.

**SELECTMEN OF AUBURN.** — Road locally known as Southbridge Street, extending from a point near the property of Josephine R. Petit to the dividing line between the towns of Auburn and Oxford. Received November 18, 1925.

**SELECTMEN OF OXFORD.** — Road locally known as the Webster Road, extending from the dividing line between the towns of Auburn and Oxford to a point near the Baptist Church. Received November 24, 1925.

## CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS.

(Chapter 81, General Laws, as amended.)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

*Framingham-Ashland-Holliston.*

December 30, 1924, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 4,083 feet of State highway on Hollis Street in Framingham, about 9,101 feet of State highway on Pond Street in Ashland, and about 8,480 feet of State highway on Concord Street in Holliston, the surface consisting of bituminous macadam. The proposal amounted to \$88,599.00. Work completed September 1, 1925. Expenditure during 1925, \$104,955.21.

*Whitman.*

December 30, 1924, contract made with Powers Brothers, of Brockton, for surface drainage and the resurfacing of about 2,109 feet of State highway on Temple Street, the surface consisting of bituminous macadam. The proposal amounted to \$15,347.00. Work completed June 23, 1925. Expenditure during 1925, \$19,623.05.

*Westminster-Fitchburg.*

January 27, 1925, contract made with Carlo Bianchi & Co., Inc., of Framingham, for reconstructing about 5,033 feet of State highway on Westminster Street in Fitchburg, and about 15,877 feet of State highway on the Fitchburg Road in Westminster, the surface consisting of bituminous macadam. The proposal amounted to \$211,824.30. Work completed November 24, 1925. Expenditure during 1925, \$210,694.38.

*Fairhaven-Mattapoisett.*

January 27, 1925, contract made with the New Haven Road Construction Co., of New Haven, Conn., for reconstructing about 11,034 feet of State highway on Washington Street in Fairhaven, and about 6,098 feet of State highway on Fairhaven Street in Mattapoisett, the surface consisting of bituminous macadam. The proposal amounted to \$128,303.40. Work completed November 10, 1925. Expenditure during 1925, \$130,731.11.

*Lenox-Lee.*

February 10, 1925, contract made with Luigi C. Carchia, of Boston, for reconstructing about 12,053 feet of State highway on Walker Street in Lenox, and about 6,645 feet of State highway on Laurel Street in Lee, the surface consisting of reinforced cement concrete. The proposal amounted to \$202,000.00. Work completed November 30, 1925. Expenditure during 1925, \$197,940.63.

*Taunton-Berkley.*

April 7, 1925, contract made with Carlo Bianchi & Co., Inc., of Framingham, for reconstructing about 12,521 feet of State highway on County Street in Taunton, and about 2,074 feet of State highway on County Street in Berkley, the surface consisting of reinforced cement concrete. The proposal amounted to \$154,630.75. Work completed October 13, 1925. Expenditure during 1925, \$148,820.17.

*Andover.*

April 21, 1925, contract made with John W. O'Connell, of Boston, for constructing about 4,073 feet of State highway on Elm Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$47,420.20. Work completed August 18, 1925. Expenditure during 1925, \$32,604.51.

*Brookfield.*

April 21, 1925, contract made with B. Perini & Sons, Inc., of Ashland, for constructing and reconstructing about 6,183 feet of State highway on Main Street,



the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$97,527.40. Work completed September 22, 1925. Expenditure during 1925, \$96,920.78.

*Paxton.*

April 21, 1925, contract made with R. H. Newell Co., of Uxbridge, for constructing about 9,414 feet of State highway on the Rutland Road, the surface consisting of bituminous macadam. The proposal amounted to \$71,066.50. Work completed September 8, 1925. Expenditure during 1925, \$73,919.39.

*Agawam.*

April 21, 1925, contract made with the Lane Construction Corporation, of Meriden, Conn., for constructing about 8,000 feet of State highway on Main Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$81,266.95. Work completed August 25, 1925. Expenditure during 1925, \$70,521.45.

*Williamsburg.*

April 28, 1925, contract made with Bianchi & Way, of Springfield for the construction of a bridge and approaches on 1,115 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$19,236.80. Work completed September 15, 1925. Expenditure during 1925, \$18,170.84.

*Raynham.*

April 28, 1925, contract made with A. Susi & Company, of Boston, for reconstructing about 8,850 feet of State highway on Broadway, the surface consisting of reinforced cement concrete on 8,190 feet and bituminous macadam on 660 feet. The proposal amounted to \$91,871.95. Work completed September 15, 1925. Expenditure during 1925, \$104,400.59.

*Somerset.*

May 12, 1925, contract made with Joseph McCormick, of Seekonk, for constructing and reconstructing about 24,121 feet of State highway on County Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$313,695.25. Work completed November 24, 1925. Expenditure during 1925, \$286,595.89.

*Stoughton-Canton.*

May 19, 1925, contract made with Carlo Bianchi & Co., Inc., of Framingham, for reconstructing about 6,133 feet of State highway on Washington Street in Stoughton, and about 16,900 feet of State highway on Turnpike Street in Canton, the surface consisting of reinforced cement concrete with bituminous macadam shoulders on 20,083 feet, and bituminous macadam on 2,950 feet. The proposal amounted to \$268,201.40. Work practically completed. Expenditure during 1925, \$245,695.30.

*Southampton-Easthampton.*

May 19, 1925, contract made with Willard C. Tannatt, Jr., of Easthampton, for the construction and reconstruction of about 3,629 feet of State highway on the College Highway in Southampton, and about 3,815 feet of State highway on Main Street in Easthampton, the surface consisting of bituminous macadam. The proposal amounted to \$57,787.00. Work completed November 24, 1925. Expenditure during 1925, \$53,566.79.

*Auburn-Oxford.*

May 26, 1925, contract made with Thomas G. Jewett, Jr., Inc., of New Bedford, for reconstructing about 10,353 feet of State highway on the Southbridge Road in Auburn, and about 4,600 feet of State highway on the Webster Road in Oxford, the surface consisting of reinforced cement concrete. The proposal amounted to \$150,427.85. Work practically completed. Expenditure during 1925, \$146,399.50.

*Plainville-Wrentham.*

May 26, 1925, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 8,640 feet of State highway on South Street in Plainville, and about 8,541 feet of State highway on said road in Wrentham, the surface consisting of reinforced cement concrete. The proposal amounted to \$187,665.75. Work practically completed. Expenditure during 1925, \$181,255.90.

*Littleton-Westford.*

June 2, 1925, contract made with Antonio Pallatto, of Dracut, for constructing about 2,209 feet of State highway on the Westford Road in Littleton, and about 8,271 feet of State highway on said road in Westford, the surface consisting of bituminous macadam. The proposal amounted to \$89,556.75. Work completed November 30, 1925. Expenditure during 1925, \$83,195.53.

*Barnstable.*

June 9, 1925, contract made with the Lane Construction Corporation, of Meriden, Conn., for resurfacing about 16,720 feet of State highway on County Street, the surface consisting of bituminous concrete. The proposal amounted to \$64,200.00. Work completed November 30, 1925. Expenditure during 1925, \$56,283.60.

*Dartmouth.*

June 9, 1925, contract made with Luke H. Callan, of Bristol, R. I., for reconstructing about 7,595 feet of State highway on Kempton Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$198,810.50. Work completed November 24, 1925. Expenditure during 1925, \$103,175.77.

*Revere-Saugus.*

June 9, 1925, contract made with M. McDonough Co., of Swampscott, for widening about 3,531 feet of State highway on Broadway in Revere, and about 8,665 feet of State highway on said road in Saugus. The proposal amounted to \$38,560.00. Work about two-thirds completed. Expenditure during 1925, \$24,000.02.

*Hinsdale.*

June 23, 1925, contract made with Joseph McCormick, of East Providence, R. I., for the construction and reconstruction of about 6,948 feet of State highway on the Dalton Road, the surface consisting of bituminous macadam. The proposal amounted to \$66,679.10. Work completed November 24, 1925. Expenditure during 1925, \$62,142.03.

*Dartmouth.*

June 23, 1925, contract made with the Town of Dartmouth for constructing about 6,145 feet of State highway on Kempton Street, the surface consisting of reinforced cement concrete. Work completed November 24, 1925. Expenditure during 1925, \$66,786.33.

*Chatham-Harwich-Brewster-Orleans.*

June 23, 1925, contract made with Michael F. Roach, of East Bridgewater, for resurfacing the State highway on the Orleans Road, about 1,114 feet in Chatham, 7,281 feet in Harwich, 187 feet in Brewster and 14,353 feet in Orleans, the surface consisting of bituminous concrete. The proposal amounted to \$84,452.00. Work practically completed. Expenditure during 1925, \$64,243.94.

*Northfield.*

June 30, 1925, contract made with Kelleher Brothers, of Montague, for constructing about 10,748 feet of State highway on the Northfield Farm Road, the surface consisting of bituminous macadam. The proposal amounted to \$81,905.00. Work completed November 10, 1925. Expenditure during 1925, \$73,145.06.



*Tolland-Sandisfield.*

July 14, 1925, contract made with Carl B. Lindholm, of Pittsfield, for constructing about 1,970 feet of State highway on the Farmington River Turnpike in Tolland, and about 1,430 feet of State highway on said road in Sandisfield, the surface consisting of gravel, with bituminous concrete surface over bridge. The proposal amounted to \$64,277.30. Work about four-fifths completed. Expenditure during 1925, \$50,863.77.

*Cummington.*

July 21, 1925, contract made with the Lane Construction Corporation, of Meriden, Connecticut, for resurfacing about 24,300 feet of State highway on the Berkshire Trail, the surface consisting of bituminous macadam. The proposal amounted to \$134,887.50. Work completed November 30, 1925. Expenditure during 1925, \$112,729.55.

*Sandwich.*

July 28, 1925, contract made with Sidney W. Lawrence, of Falmouth, for resurfacing about 14,204 feet of State highway on the North County Road, the surface consisting of bituminous concrete. The proposal amounted to \$53,223.00. Work practically completed. Expenditure during 1925, \$49,615.37.

*Revere-Saugus.*

July 28, 1925, contract made with Luke S. White, Inc., of Kingston, for widening three bridges on the State highway in Revere and Saugus, one over the West Branch of Pines River, one over Pines River, and one over the East Branch of Pines River. The proposal amounted to \$44,604.25. Work about one-half completed. Expenditure during 1925, \$28,089.79.

*Lee.*

July 28, 1925, contract made with Charles I. Hosmer, of Montague, for the construction of a bridge and approaches on about 303 feet of State highway, the surface on 129 feet consisting of bituminous concrete, and on 174 feet of bituminous macadam. The proposal amounted to \$55,949.45. Work about one-fourth completed. Expenditure during 1925, \$16,322.39.

*Sturbridge.*

July 28, 1925, contract made with the Lane Construction Corporation, of Meriden, Conn., for constructing about 17,741 feet of State highway on the Brimfield Road, the surface consisting of bituminous macadam. The proposal amounted to \$121,676.80. Work about one-third completed. Expenditure during 1925, \$79,286.05.

*Taunton.*

August 5, 1925, contract made with Powers Brothers, of Brockton, for constructing about 4,590 feet of State highway on County Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$51,689.00. Work practically completed. Expenditure during 1925, \$46,249.75.

*Conway.*

August 5, 1925, contract made with Frank F. McCarthy, of Newton, for constructing three bridges and approaches on about 1,050 feet of State highway, the surface consisting of gravel. The proposal amounted to \$84,578.90. Work about three-fourths completed. Expenditure during 1925, \$69,881.14.

*Wrentham.*

August 5, 1925, contract made with T. J. Quinn, of Ashton, R. I., for constructing about 9,488 feet of State highway on West and Cumberland Streets, the surface consisting of bituminous macadam. The proposal amounted to \$86,790.80. Work about one-half completed. Expenditure during 1925, \$49,904.62.

*Somerset-Swansea.*

August 11, 1925, contract made with B. Perini & Sons, Inc., of Ashland, for constructing two bridges and reconstructing the approaches on about 1,450 feet of State highway in Somerset and Swansea, the surface consisting of bituminous macadam. The proposal amounted to \$165,831.05. Work about one-fifth completed. Expenditure during 1925, \$33,499.08.

*Dartmouth.*

August 11, 1925, contract made with the Town of Dartmouth for constructing about 1,550 feet of State highway on Kempton Street, the surface consisting of reinforced cement concrete. Work completed November 24, 1925. Expenditure during 1925, \$26,018.84.

*Orange.*

August 18, 1925, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 6,264 feet of State highway on the Athol Road, the surface consisting of bituminous macadam. The proposal amounted to \$57,311.75. Work completed November 24, 1925. Expenditure during 1925, \$49,761.80.

*Cohasset.*

August 25, 1925, contract made with Bradford Weston, of Hull, for reconstructing about 2,050 feet of State highway on North Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$20,403.00. Work about four-fifths completed. Expenditure during 1925, \$18,811.37.

*Dalton.*

August 25, 1925, contract made with Carl B. Lindholm, of Pittsfield, for constructing a bridge and approaches and reconstructing about 2,347 feet of State highway on the Hinsdale Road, the surface consisting of bituminous macadam. The proposal amounted to \$47,092.50. Work about one-fourth completed. Expenditure during 1925, \$12,248.25.

*West Boylston.*

September 1, 1925, contract made with Charles E. Horne, of Millbury, for reconstructing about 2,370 feet of State highway on Worcester Street, the surface consisting of bituminous macadam. The proposal amounted to \$20,179.50. Work practically completed. Expenditure during 1925, \$16,706.24.

*Middleborough.*

September 1, 1925, contract made with Powers Brothers, of Brockton, for reconstructing about 29,495 feet of State highway on Wareham Street, the surface consisting of bituminous macadam. The proposal amounted to \$212,103.10. Work about one-third completed. Expenditure during 1925, \$81,605.83.

*Wareham.*

September 1, 1925, contract made with D'Onfro Brothers, Inc., of Leominster, for reconstructing about 16,195 feet of State highway on the Sawyer Road, the surface consisting of bituminous macadam. The proposal amounted to \$123,903.20. Work about one-fifth completed. Expenditure during 1925, \$25,576.45.

*Seekonk-Rehoboth-Swansea.*

September 8, 1925, contract made with Charles A. Haggerty, of Webster, for constructing about 3,276 feet of State highway on the Fall River Road in Seekonk, about 3,723 feet of State highway on the Fall River-Providence Road in Rehoboth, and about 3,028 feet of State highway on the Providence Road in Swansea, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$212,332.50. Work about one-tenth completed. Expenditure during 1925, \$22,105.56.



The expenditures for the construction of State highways in various counties during the year were:

Barnstable, \$9,247.70	Hampshire, \$88,751.53
Berkshire, \$300,905.79	Middlesex, \$115,423.77
Bristol, \$661,073.49	Norfolk, \$63,785.42
Essex, \$207,810.82	Plymouth, \$66,844.39
Franklin, \$178,891.65	Worcester, \$254,188.54
Hampden, \$213,643.99	Total, \$2,160,567.09

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$7,701.41; Chatham, \$1,546.29.

*Berkshire County.* — Dalton, \$14,419.33; Hinsdale, \$36,386.84; Lee, \$19,235.74; Sandisfield, \$25,689.58; Sheffield, \$84,474.36; Williamstown, \$112,473.92; Windsor, \$8,226.02.

*Bristol County.* — Dartmouth, \$109,369.79; Dighton, \$158,572.79; Rehoboth, \$11,841.46; Seekonk, \$9,403.06; Somerset, \$284,341.45; Swansea, \$33,040.16; Taunton, \$54,504.78.

*Essex County.* — Andover, \$38,424.04; Ipswich, \$50,385.07; Lawrence, \$49,517.46; Methuen, \$18,878.14; North Andover, \$50,606.11.

*Franklin County.* — Bernardston, \$10,336.96; Conway, \$82,354.10; Northfield, \$86,200.59.

*Hampden County.* — Agawam, \$102,448.83; Brimfield, \$1,823.57; Chester, \$18,208.61; Monson, \$2,982.42; Palmer, \$9,669.82; Russell, \$44,257.97; Tolland, \$34,252.77.

*Hampshire County.* — Cummington, \$8,226.04; Easthampton, \$19,238.74; Southampton, \$39,872.63; Williamsburg, \$21,414.12.

*Middlesex County.* — Littleton, \$18,133.69; Marlborough, \$6,429.20; Wayland, \$10,949.60; Westford, \$79,911.28.

*Norfolk County.* — Braintree, \$4,830.01; Milton, \$143.47; Wrentham, \$58,811.94.

*Plymouth County.* — Bridgewater, \$6,904.63; Middleborough, \$6,904.63; Wareham, \$53,035.13.

*Worcester County.* — Barre, \$8,614.83; Brookfield, \$64,875.62; Mendon, \$147.30; Paxton, \$87,113.12; Sturbridge, \$93,437.67.

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS.

(Section 13, chapter 81, General Laws, and chapters 211 and 347, Acts of 1925.)

The expenditures during the year in various counties were: —

Barnstable, \$337,731.51	Hampshire, \$237,243.54
Berkshire, \$453,501.67	Middlesex, \$325,441.80
Bristol, \$787,572.35	Nantucket, \$18,115.27
Dukes, \$48,672.81	Norfolk, \$623,025.83
Essex, \$220,658.91	Plymouth, \$387,548.54
Franklin, \$150,412.19	Suffolk, \$33,337.67
Hampden, \$489,277.86	Worcester, \$743,363.51
	Total, \$4,855,903.46

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$76,620.85; Bourne, \$11,932.89; Brewster, \$4,278.50; Chatham, \$10,056.67; Dennis, \$9,490.42; Eastham, \$1,550.38; Falmouth, \$8,770.41; Harwich, \$30,980.34; Mashpee, \$5,284.20; Orleans, \$45,362.42; Provincetown, \$11,636.74; Sandwich, \$63,873.60; Truro, \$48,068.41; Wellfleet, \$1,959.34; Yarmouth, \$7,866.34.

*Berkshire County.* — Adams, \$3,641.35; Becket, \$15,783.04; Cheshire, \$10,132.63; Clarksburg, \$3,080.23; Dalton, \$6,952.03; Egremont, \$4,141.81; Florida, \$14,983.57; Great Barrington, \$9,262.87; Hancock, \$1,745.64; Hinsdale, \$41,354.69; Lanesborough, \$8,099.88; Lee, \$100,190.61; Lenox, \$160,175.83; New Ashford, \$2,314.57; New Marlborough, \$276.44; North Adams, \$8,823.65; Otis, \$235.67; Pittsfield, \$9,960.95; Richmond, \$7,707.97; Sandisfield, \$473.32; Savoy,



\$1,965.95; Sheffield, \$11,169.79; Stockbridge, \$7,143.36; Washington, \$1,971.04; Williamstown, \$12,975.81; Windsor, \$8,938.97.

*Bristol County.* — Acushnet, \$2,119.32; Attleboro, \$11,266.33; Berkley, \$24,386.40; Dartmouth, \$122,500.78; Dighton, \$9,442.95; Easton, \$4,527.09; Fairhaven, \$99,697.30; Fall River, \$158.87; Freetown, \$14,347.98; Mansfield, \$1,469.23; North Attleborough, \$15,060.92; Norton, \$14,795.59; Raynham, \$126,828.37; Rehoboth, \$9,965.44; Seekonk, \$31,854.52; Somerset, \$105,393.06; Swansea, \$28,011.43; Taunton, \$156,533.21; Westport, \$9,213.56.

*Dukes County.* — Chilmark, \$1,066.53; Edgartown, \$29,056.65; Gay Head, \$345.35; Oak Bluffs, \$11,021.56; Tisbury, \$1,585.80; West Tisbury, \$5,596.92.

*Essex County.* — Amesbury, \$4,658.08; Andover, \$3,049.64; Beverly, \$5,435.23; Danvers, \$3,703.10; Essex, \$10,875.20; Gloucester, \$3,922.29; Groveland, \$4,595.53; Hamilton, \$2,230.40; Haverhill, \$4,871.27; Ipswich, \$8,665.88; Lawrence, \$1,941.79; Lynn, \$6,632.27; Lynnfield, \$1,921.50; Merrimac, \$3,106.62; Methuen, \$25,317.26; Middleton, \$973.30; Newbury, \$13,898.85; Newburyport, \$3,806.06; North Andover, \$8,536.70; Peabody, \$1,751.60; Rockport, \$3,577.59; Rowley, \$7,561.26; Salem, \$4,130.17; Salisbury, \$24,105.71; Saugus, \$47,533.57; Swampscott, \$1,954.10; Topsfield, \$6,580.55; Wenham, \$1,106.32; West Newbury, \$4,215.07.

*Franklin County.* — Ashfield, \$1,224.67; Bernardston, \$5,286.90; Buckland, \$4,324.15; Charlemont, \$18,433.64; Colrain, \$1,653.97; Conway, \$3,140.08; Deerfield, \$10,275.37; Erving, \$11,798.20; Gill, \$95.46; Greenfield, \$4,527.26; Montague, \$7,667.94; Northfield, \$9,953.04; Orange, \$61,281.90; Shelburne, \$5,282.03; Sunderland, \$2,462.14; Whately, \$3,005.44.

*Hampden County.* — Agawam, \$4,452.60; Blandford, \$7,207.40; Brimfield, \$4,065.23; Chester, \$12,695.41; Chicopee, \$7,825.92; East Longmeadow, \$3,290.57; Holyoke, \$364,009.77; Monson, \$1,068.55; Palmer, \$13,100.94; Russell, \$11,451.17; Southwick, \$6,300.74; Wales, \$2,485.12; West Springfield, \$2,014.32; Westfield, \$7,069.29; Wilbraham, \$42,240.83.

*Hampshire County.* — Amherst, \$3,526.80; Belchertown, \$2,714.38; Cumington, \$136,979.89; Easthampton, \$16,284.24; Goshen, \$3,682.52; Granby, \$6,454.81; Hadley, \$4,059.78; Hatfield, \$1,948.30; Huntington, \$7,758.18; Northampton, \$7,870.50; South Hadley, \$9,108.35; Southampton, \$18,747.75; Ware, \$12,308.74; Williamsburg, \$5,782.19; Worthington, \$17.11.

*Middlesex County.* — Acton, \$3,970.05; Arlington, \$1,356.69; Ashby, \$8,437.62; Ashland, \$51,266.03; Ayer, \$4,068.97; Bedford, \$3,363.50; Billerica, \$6,172.83; Boxborough, \$2,408.72; Burlington, \$2,890.39; Chelmsford, \$22,135.55; Concord, \$2,880.91; Dracut, \$4,322.69; Framingham, \$40,232.22; Groton, \$1,799.68; Holliston, \$41,073.56; Hudson, \$1,809.23; Lexington, \$5,172.21; Lincoln, \$1,176.58; Littleton, \$4,960.43; Lowell, \$9,631.05; Malden, \$189.72; Marlborough, \$10,359.83; Medford, \$648.73; Melrose, \$1,700.97; Natick, \$4,944.65; Newton, \$695.43; North Reading, \$1,144.41; Pepperell, \$2,654.81; Reading, \$4,266.12; Shirley, \$2,037.94; Somerville, \$2,166.75; Stoneham, \$2,776.80; Sudbury, \$3,980.41; Tewksbury, \$2,336.80; Townsend, \$4,061.32; Tyngsborough, \$34,049.75; Waltham, \$725.99; Watertown, \$870.84; Wayland, \$2,825.75; Westford, \$5,685.47; Weston, \$2,692.54; Wilmington, \$4,112.60; Winchester, \$2,497.52; Woburn, \$8,887.74.

*Nantucket County.* — Nantucket, \$18,115.27.

*Norfolk County.* — Avon, \$3,590.85; Bellingham, \$3,476.99; Braintree, \$8,446.53; Canton, \$205,098.26; Cohasset, \$23,156.60; Dedham, \$2,047.42; Dover, \$3,212.30; Foxborough, \$2,575.78; Franklin, \$5,438.99; Holbrook, \$15,414.63; Milton, \$3,925.24; Needham, \$4,185.85; Norfolk, \$222.75; Norwood, \$1,886.02; Plainville, \$106,885.07; Quincy, \$2,580.94; Randolph, \$4,166.99; Sharon, \$489.27; Stoughton, \$81,453.89; Walpole, \$4,622.79; Wellesley, \$741.18; Westwood, \$16,324.28; Weymouth, \$12,356.37; Wrentham, \$110,726.84.

*Plymouth County.* — Abington, \$2,614.80; Bridgewater, \$13,431.58; Brockton, \$3,796.40; Duxbury, \$5,287.99; East Bridgewater, \$3,369.81; Hanover, \$6,026.52; Hingham, \$7,889.57; Kingston, \$3,537.41; Lakeville, \$57,478.78; Marion, \$3,900.11; Marshfield, \$6,232.25; Mattapoisett, \$51,816.18; Middleborough, \$108,006.09; Norwell, \$1,274.64; Pembroke, \$14,848.54; Plymouth, \$16,079.16;





The total amount received by Massachusetts from 1916 to Nov. 30, 1925, is \$6,056,199.46.

Projects to the number of 23 have been prepared in addition to those shown in the report of the Department of Public Works, Division of Highways, for 1924. The total mileage included in the various Federal aid road projects in this State, from the commencement of work of this character to Nov. 30, 1925, inclusive, is 425.041. The mileage in various counties is:—

Barnstable, 31.018 miles  
Berkshire, 58.585 miles  
Bristol, 42.210 miles  
Dukes, 3.117 miles  
Essex, 49.293 miles  
Franklin, 17.729 miles

Hampden, 27.055 miles  
Hampshire, 20.929 miles  
Middlesex, 44.085 miles  
Norfolk, 31.714 miles  
Plymouth, 39.191 miles  
Worcester, 60.115 miles

### STATEMENT OF FEDERAL AID ROAD PROJECTS<sup>1</sup> TO NOV. 30, 1925.

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
1	Acushnet-Fairhaven . . . . .	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover . . . . .	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus . . . . .	1.162	11,620 00	11,620 00	Work completed.
4	Danvers . . . . .	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton . . . . .	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich . . . . .	1.818	10,678 02	10,678 02	Work completed.
7	Cummington . . . . .	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham . . . . .	7.016	90,074 51	90,074 51	Work completed.
9	Saugus . . . . .	3.122	65,472 27	65,472 27	Work completed.
10	Braintree . . . . .	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton . . . . .	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich . . . . .	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton . . . . .	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable . . . . .	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham . . . . .	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody . . . . .	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg . . . . .	2.797	55,940 00	55,940 00	Work completed.
19	Taunton . . . . .	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury . . . . .	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock . . . . .	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston . . . . .	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington . . . . .	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk . . . . .	2.756	19,527 75	19,527 75	Work completed.
25	Billerica . . . . .	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1 . . . . .	5.134	102,680 00	102,680 00	Work completed.
	Section 2 . . . . .	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham . . . . .	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A . . . . .	0.990	19,780 00	19,780 00	Work completed.
	Section B . . . . .	2.690	53,800 00	53,800 00	Work completed.
29	Ware . . . . .	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield . . . . .	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody . . . . .	1.107	22,140 00	22,140 00	Work completed.
32	Huntington . . . . .	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A . . . . .	2.182	43,640 00	43,640 00	Work completed.
	Section B . . . . .	1.624	25,847 25	25,847 25	Work completed.
34	Dudley . . . . .	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen . . . . .	4.544	90,830 00	45,543 84	Work completed
36	Eastham-Wellfleet-Provincetown:				in Haverhill.
	Section A . . . . .	10.690	91,347 85	91,347 85	Work completed.
	Section B . . . . .	6.548	75,935 60	75,935 60	Work completed.
	Section C . . . . .	8.043	86,130 51	86,130 51	Work completed.
37	Egremont . . . . .	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers . . . . .	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanesbor-				
	ough:				
	Section A . . . . .	0.020	9,123 64	9,123 64	Work completed.
	Section B . . . . .	3.323	65,980 00	65,980 00	Work completed.
40	East Brookfield . . . . .	1.011	20,220 00	20,220 00	Work completed.
41	Ashby . . . . .	1.250	22,141 03	22,141 03	Work completed.
42	Washington . . . . .	2.291	45,820 00	45,820 00	Work completed.
43	Leicester . . . . .	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A . . . . .	1.494	29,880 00	29,880 00	Work completed.
	Section B . . . . .	1.479	50,183 37	50,183 37	Work completed.
	Section C . . . . .	3.780	82,915 42	82,915 42	Work completed.

<sup>1</sup> All of these projects are now, or will be later, State highways.



## STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1925—Continued

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
45	Palmer:				
	Sections A and C . . . . .	1.795	\$35,900 00	\$35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A . . . . .	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	39,180 00	39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	53,820 00	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	60,180 00	60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	89,780 00	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.156	13,095 66	13,095 66	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	-	Work completed.
81	Deerfield . . . . .	0.710	11,537 50	-	Project sent.
83	Pembroke . . . . .	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	5,429 50	5,429 50	Work completed.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield . . . . .	1.227	25,447 12	15,468 83	Work completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
92	Bellingham . . . . .	5.250	105,000 00	-	Agreement signed.
93	Wilbraham . . . . .	0.208	87,077 51	-	Work completed.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	122,931 25	Work completed.
95	Westfield . . . . .	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham . . . . .	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield . . . . .	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester . . . . .	1.191	19,353 75	19,353 75	Work completed.
100	Rutland . . . . .	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale . . . . .	0.297	4,455 00	-	Work completed.
102A	Plainville-Wrentham . . . . .	3.254	48,810 00	-	Work completed.
103	Adams . . . . .	0.568	9,230 00	9,230 00	Work completed.
104	Milton . . . . .	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth . . . . .	1.438	28,760 00	28,760 00	Work completed.
106	Bourne . . . . .	0.522	35,002 00	35,002 00	Work completed.
107	Southampton . . . . .	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown . . . . .	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield . . . . .	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater . . . . .	0.109	24,580 87	24,580 87	Work completed.
111	Braintree . . . . .	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleboro . . . . .	3.273	65,560 00	65,560 00	Work completed.
113	Swansea . . . . .	0.692	11,245 00	11,245 00	Work completed.
114	Lenox . . . . .	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth . . . . .	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole . . . . .	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford . . . . .	1.377	27,540 00	27,540 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1925 — *Concluded.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
117B	Chelmsford-Tyngsboro	4.625	\$89,713 81	\$89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	-	Work completed.
118B	Brookfield	0.251	3,765 00	-	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkley	2.758	41,370 00	-	Work completed.
120D	Taunton	0.862	12,930 00	-	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
125A	Wareham	3.036	72,305 23	59,064 31	Work completed.
125B	Wareham	2.761	41,415 00	-	Work completed.
127A	Holyoke	4.136	62,040 00	54,667 05	Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	-	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	46,011 44	Work completed.
129B	Somerset	4.340	65,511 29	-	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	6,347 05	Work underway.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
133A	North Andover	0.615	9,225 00	-	Work completed.
133B	North Andover	0.771	11,565 00	-	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
135A	Russell	0.557	13,919 60	-	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	-	Work completed.
137A	Sheffield	0.170	22,710 05	-	Work completed.
138A	Chester	0.097	13,735 72	-	Work completed.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
140A	Lenox-Lee	3.519	52,785 00	-	Work completed.
140B	Lee	0.057	26,620 13	-	Work underway.
141A	Williamsburg	0.211	10,029 88	-	Work completed.
142A	Fitchburg-Westminster	3.960	71,792 94	59,743 05	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	-	Work completed.
144A	Canton-Stoughton	4.306	64,575 00	-	Work underway.
145A	Ashland-Holliston	3.330	43,722 03	30,581 50	Work completed.
146A	Paxton	1.783	26,745 00	-	Work completed.
147	Lenox-Pittsfield	2.500	37,500 00	-	Project approved.
148A	Raynham	1.657	24,855 00	-	Work completed.
149A	Middleborough	5.586	83,790 00	-	Work underway.
150A	Littleton-Westford	1.985	29,775 00	-	Work completed.
151A & B	Swansea-Somerset	0.464	89,736 24	-	Work underway.
152A	Dartmouth	1.401	21,015 00	-	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	-	Work completed.
154A	Sturbridge	2.503	37,545 00	-	Work underway.
155	West Springfield-Westfield	3.000	45,000 00	-	Project approved.
156A	Orange	1.058	15,870 00	-	Work completed.
157A	Sandisfield-Tolland	0.644	36,887 40	-	Work underway.
158A	Dalton	0.430	25,726 60	-	Work underway.
159A	Seekonk-Rehoboth-Swansea	1.899	61,146 07	-	Work underway.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	-	Project approved.
161A	Brockton-W. Bridgewater	3.823	57,345 00	-	Project approved.
162A	Holliston	3.300	49,500 00	-	Project approved.
Totals		425.041	\$7,718,202 56	\$6,056,199 46	

## BRIDGES.

During the year the Division has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows: —

## BRIDGES BUILT OR CONTRACTED FOR.

*Cities and Towns, Locality and Character of Structure.*

Bellingham — North Main Street over Charles River; 24-foot span, reinforced concrete beam.

Canton — Washington Street over dam spillway; 12-foot to 33-foot span, reinforced concrete beam and slab.

Conway — Ashfield Road over South River; three bridges, each 40-foot span, reinforced concrete beam.

Dalton — Jericho Road to Hinsdale, over Housatonic River; two 34-foot spans, reinforced concrete beam.

Harvard — Ayer road over Bowers Brook; 24-foot span, reinforced concrete beam.



- Lee — Lee-Lenox road over Housatonic River; 120.5-foot span, through steel truss.
- Northbridge — Providence-Worcester road over Blackstone River; two 41.75-foot spans, reinforced concrete beam.
- Paxton — Rutland road over Turkey Hill Brook; 12-foot span, reinforced concrete slab.
- Rehoboth — Seekonk-Swansea road over Palmer River; two 30-foot spans, reinforced concrete beam.
- Sandisfield-Tolland — On road from New Boston to Winsted, Conn., over West Branch of Farmington River; 124.92-foot span, through steel truss.
- Somerset-Swansea — Fall River-Providence road over Lees River; 51.5-foot span, reinforced concrete beam.
- Swansea — Fall River-Providence road over Coles River; 51.5-foot span, reinforced concrete beam.
- Taunton — Taunton-New Bedford road over Cotley River; 8-foot reinforced concrete slab.
- Westminster — Fitchburg-Gardner road over Branch of Nashua River; 40-foot span, reinforced concrete beam.
- Westminster — Fitchburg-Gardner road over brook; 14-foot span, reinforced concrete slab.
- West Springfield — Springfield-Pittsfield road over Boston and Albany Railroad; 72.67-foot span, plate girder.
- Williamsburg — Goshen road over Mill River; 44-foot span, reinforced concrete beam.

#### ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES COMPLETED IN 1925.

##### *Towns, Locality and Character of Work.*

- Dartmouth — New Bedford-Fall River road over flume at Smith Mills; 12.25-foot span, reinforced concrete slab extension.
- Dartmouth — New Bedford-Fall River road over Pamanset River; 16.5-foot span, reinforced concrete slab extension.
- Fall River-Somerset — Brightman Street Bridge over Taunton River; safety gate for draw span and repairs to deck truss.
- Leicester — Pleasant Street over Greenville Reservoir outlet; 16-foot span, reinforced concrete slab extension to arch.
- Mattapoisett — Fairhaven Road over Herring River; 20.33-foot span, reinforced concrete beam extension and alteration.
- Norton — Taunton Avenue over Wading River; 41.5-foot span, alteration of floor system.
- Revere — Broadway over West Branch Pines River; 24-foot span, reinforced concrete beam extension to solid floor.
- Revere-Saugus — Broadway over Pines River; seven spans with total of 115 feet, wood pile bridge extended.
- Saugus — Broadway over East Branch Pines River; 21-foot span, reinforced concrete beam extension to solid floor.
- Southwick — Granville road over Munn Brook; new reinforced concrete abutment.
- Swampscott — Essex Street over Boston and Maine Railroad; relocation of street railway track.
- Wareham — Main road at East Wareham, over fishways, Agawam River; 5.5-foot span and two 5-foot spans, reinforced concrete slab extensions.

#### CONTEMPLATED BRIDGES AND STRUCTURES.

##### *Plans, Studies or Estimates made.*

##### *Towns, Locality and Character of Structure.*

- Agawam — River Road over Tarkhill Brook; 9.5-foot span, reinforced concrete slab.
- Agawam — River Road over Worthington Brook; 16-foot span, reinforced concrete beam.
- Amherst — South Pleasant Street over Branch Fort River; 15-foot span, reinforced concrete beam.

Amherst — North Pleasant Street over Mill River; two 18-foot spans, reinforced concrete beam.

Attleboro — Newport Avenue, over New York, New Haven and Hartford Railroad; 30-foot span, wood floor, stone abutment.

Barnstable — Craigville Beach road over Centerville River; 38-foot span, reinforced concrete beam.

Bedford — Bedford-Lexington road over Shawsheen River; 28-foot span, extension of solid floor.

Bedford — Bedford-Lexington road over Elm Brook; 15.8-foot span, extension of solid floor.

Billerica — Chelmsford road over Concord River; seven 20-foot spans, reinforced concrete trestle.

Boston — Southern Artery, bridge on Shawmut Branch, New York, New Haven and Hartford Railroad, over Codman Street; 80-foot span, steel structure.

Bridgewater — Bedford Street over Town River; survey and study.

Cheshire — State highway over Hoosic River; two spans with total of 20 feet, extension to reinforced concrete beam.

Cheshire — State highway over Kitchen Brook; 26-foot span, extension to I-beam.

Conway — Ashfield road over South River; 45-foot span, reinforced concrete beam.

Conway — Ashfield road over South River; 45-foot span, reinforced concrete beam.

Framingham — Worcester Turnpike between Reservoirs Nos. 1 and 2; 48-foot span.

Framingham — Worcester Turnpike over Sudbury River; 63-foot span.

Holliston — On Milford Road, over brooks; one 9-foot span, extension to stone arch, and one 17.5-foot span, extension to stone arch.

Lancaster — Fitchburg Turnpike over Nashua River; two spans each 43.5 feet.

Lenox — Pittsfield road over Yokum River; 14.6-foot span, reinforced concrete slab.

Monson — Main Street over Conant Brook; 21-foot span, reinforced concrete beam.

Natick — Worcester Turnpike over Lake Cochituate; 16.5-foot span, reinforced concrete slab.

Natick — Worcester Turnpike over brook; 10.5-foot reinforced concrete slab.

Newbury — Over Parker River (Oldtown); one 110-foot and two 95-foot spans, reinforced concrete arch.

Otis — Becket-Otis road over West Branch Farmington River; 40-foot span, reinforced concrete beam.

Westborough — Worcester Turnpike over Assabet River.

West Bridgewater — Brockton-Middleborough road over Town River; 34-foot span, reinforced concrete beam extension to stone arch.

Westminster — Fitchburg-Winchendon road over Nookagee River; two spans with total of 64 feet, reinforced concrete beam.

Westminster — Fitchburg-Winchendon road over Nookagee River; 40-foot span, reinforced concrete beam.

West Stockbridge — Over Shaker Mill Pond; 42-foot span, reinforced concrete beam.

Williamsburg — Williamsburg-Northampton road over Mill River; two spans with total of 60 feet, reinforced concrete beam.

Williamsburg — Williamsburg-Goshen road over Cranston Brook.

Williamsburg — Williamsburg-Goshen road.

Williamsburg — Williamsburg-Goshen road over Mill River.

Winchendon — Winchendon-Fitchburg road over Millers River; 23.5-foot span, reinforced concrete beam.

Winchendon — Winchendon-Fitchburg road over Millers River; 30-foot span, reinforced concrete beam.,

Windsor — Berkshire Trail, over Baldwin Brook; 24.25-foot span, reinforced concrete beam.



*Examinations, Reports, Estimates, etc., at Request of Cities and Towns.**Cities and Towns, Locality and Character of Work.*

- Alford — New Great Barrington road over Seekonk Brook; estimate for wooden superstructure.
- Auburn — Auburn Street over Branch of Blackstone River; plans, specifications and estimate for reinforced concrete beam bridge.
- Becket — Werden Road; examination and advice on strengthening.
- Blandford — East Otis road over Tiffany Brook; survey and study.
- Blandford — East Otis road over Pebble Brook; survey and study.
- Chatham — Over Mitchells River; plans and estimate for wooden pile bridge.
- Dartmouth — Over Little River; estimate for pile or reinforced concrete beam bridge.
- Dartmouth — Over Apponaganset River; examination and estimate.
- Dedham — Ames Street over Charles River; advice on repairs and widening stone arch.
- Dennis — Upper County Road over Swan Pond River; plans and estimate for wooden pile bridge.
- Dover-Needham — Charles River Street over Charles River; estimate for new wooden or concrete bridge.
- Easthampton — Mt. Tom bridge over Connecticut River; report on strength.
- Falmouth — Falmouth Heights-Davisville Road over Green Pond; estimate for new bridge.
- Framingham — Potter Road between Framingham and Wayland over Sudbury River; estimate for repairs or new bridge.
- Grafton — Bridge Street over Quinsigamond River; extension to stone arch, span 18.5 feet.
- Granville — Water Street over Dickinson Brook; estimate for new bridge or repairs and water control.
- Holden — Mill Street over Quinapoxet River; plans made for wooden truss bridge.
- Mendon — Bellingham Street over Mill River; examination of 24-foot span wooden bridge.
- Mendon — Bellingham Street over Muddy Brook; examination of 16-foot span wooden bridge.
- Mendon — Hartford Avenue over Mill Pond; examination of 13-foot span wooden bridge.
- Middleborough — East Main Street over Namasket River; examination and study for 32-foot reinforced concrete beam.
- Millis-Medfield — Forest Street over Charles River; estimate for new steel or concrete bridge.
- Millville — Center Street over Canal; examination.
- Montague — Over Saw Mill River; examination and report on 22.5-foot span bridge.
- New Marlborough — Near Mill River Village over Konkapot River; estimate for repairs.
- Norfolk — Main Street over New York, New Haven and Hartford Railroad; estimate for strengthening wooden stringer, 34-foot span.
- Northfield — School Street over Mill Brook; examination and estimate for new bridge.
- Northfield — Schell bridge over Connecticut River; examination.
- Northfield — Bennett's Meadow Bridge over Connecticut River; examination and estimate for new floor system.
- Orange — Furnace Village Bridge over Tully River; examination and estimate for reinforced concrete bridge.
- Otis — Reservoir Road over Farmington River; advice.
- Pepperell — Main Street over Nashua River; examination and report for strengthening.
- Raynham — Church Street over Taunton River; examination and estimate for repairs or new bridge.

Sterling — Sterling Junction over Boston and Maine Railroad, Southern Division, and New York, New Haven and Hartford Railroad, Worcester-Fitchburg Branch; examination of Boston and Maine Railroad 86-foot span steel truss and New York, New Haven and Hartford Railroad 36-foot span wooden bridge.

Sudbury-Wayland — Sherman Bridge over Sudbury River; plans, specifications and estimate for wooden pile bridge.

Ware — South Street over Ware River; examination and estimate for repairs.

Ware — East Street over Ware River; examination.

Washington — County Road; advice on 22-foot span bridge.

Westhampton — Over Manhan River; examination for capacity.

*Examinations, Reports, Estimates, etc., by direction of the Department.*

*Cities and Towns, Locality and Subject.*

Athol — Over West Brook; examination.

Attleboro — Newport Avenue over New York, New Haven and Hartford Railroad; examination of wooden stringer, 27-foot span.

Becket — Bonny Rigg Road over West Branch Westfield River; extension of wing wall.

Dudley — Over Quinebaug River; examination of steel through truss.

Hopkinton-Southborough — Cordaville road over Sudbury River; examination of 20-foot span stone arch.

Newburyport-Salisbury — Over Merrimack River; estimate for rebuilding floor system.

Montague-Erving — Miller's Falls; examination.

Pittsfield — VanSickle's Bridge over Housatonic River; investigation of strength for use as detour.

Pittsfield — Cutting's Bridge over Housatonic River; investigation of strength for use as detour.

Pittsfield — Learned's Bridge over Housatonic River; investigation of strength for use as detour.

Sandisfield — Over Farmington River; examination and advice given on new construction.

Sandwich — Over Scorton River; examination.

Southborough — Cordaville road over Boston and Worcester Street Railway; examination and estimate made for new bridge.

Southborough — Cordaville road over Boston and Albany Railroad; examination and estimate made for new bridge.

Sturbridge — On road Sturbridge to Union, Conn., over Quinebaug River; examination of 47-foot span Warren truss.

Sturbridge — Over Quinebaug River; examination of 47-foot span Warren truss.

Taunton — Summer Street over New York, New Haven and Hartford Railroad; examination and estimate for widening and other changes.

West Brookfield — Ware Road over brook from Wickaboag Pond; examination.

Worcester — West Boylston Street, Summit Bridge over Boston and Maine Railroad; plan and estimate submitted.

*Examinations, Reports, Estimates, etc., at Request of Other Departments.*

*Cities and Towns, Locality and Character of Work.*

Boston — Commonwealth Pier 5; advice.

Boston — Commonwealth Pier 5, Viaduct; advice.

Concord — State Reformatory; steel framing design at request of Commission on Administration and Finance.

Swampscott — Essex Street over Boston and Maine Railroad; examination and estimate made for moving street railway tracks, at request of Department of Public Utilities.



*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313, Acts of 1923.*

*Cities and Towns, Location, Character of Work and Date of Approval.*

- Amesbury — Ring's Corner over brook; 34-foot span I-beam solid floor; approved July 14, 1925.
- Cheshire — Windsor Road over McDonald Brook; 22-foot span I-beam; no approval during year.
- Colrain — Halifax, Vt., Road over North River; 70-foot span wood truss; no approval during year.
- Egremont — Mt. Washington Road; 16-foot span I-beam solid floor; approved Aug. 18, 1925.
- Enfield — Ware Road over Swift River; two-span steel truss; approved July 7, 1925.
- Grafton — Depot Street over Blackstone River; 68-foot span reinforced concrete arch; no approval during year.
- Holyoke — Sargeant Street over Second Level Canal; two-span deck plate girder, 104 feet long; approved July 7, 1925.
- Leominster — Mechanic Street over Nashua River; 65-foot span reinforced concrete arch; approved March 10, 1925.
- Marshfield — Brant Rock Road over Green Harbor River; two-span reinforced concrete slab 12 feet long; approved May 26, 1925.
- North Adams — Blackington Bridge over Hoosic River; 85-foot span half through truss; no approval during year.
- North Adams — Holden Street over North Branch Hoosic River; 64.16-foot span through plate girder; approved June 23, 1925.
- Northampton — Pleasant Street over Mill River; 95-foot span pony truss; no approval during year.
- Northampton — Cook's Dam Bridge over Mill River; 66-foot span reinforced concrete arch and 27-foot span I-beam solid floor; approved March 3, 1925.
- Northfield — Bennett's Meadow Bridge over Connecticut River; through steel trusses, 15 spans, 613 feet long; approved Sept. 30, 1925.
- Norton — Plain Street over Mulberry Brook; 23-foot span and 18-foot span reinforced concrete beams; no approval during year.
- Raynham — Church Street over Taunton River; four-span timber bridge, 88 feet long; approved Sept. 1, 1925.
- Sandisfield — Over Buck River; 27-foot span I-beam plank floor; approved Sept. 22, 1925.
- Sandisfield — Over Clam River; 24-foot span I-beam plank floor; approved Sept. 22, 1925.
- Sandisfield — Over Farmington River; two-span I-beam plank floor; 93 feet long; approved Sept. 22, 1925.
- Shutesbury — Lock's Pond Road over brook; 18-foot span timber bridge; approved Dec. 16, 1924.
- Sudbury-Wayland — Shermans Bridge over Sudbury River; 7-span wooden pile bridge 101.5 feet long; approved May 28, 1925.
- Topsfield — Asbury Street over Ipswich River; 49-foot span, plate girder; approved Dec. 9, 1924.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the bridge shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1925, was 169. In 1924 the number was 228; in 1923, 288; and in 1922, 276.

The total expenditures during the year ending Nov. 30, 1925, were \$5,578.02.

The total expenditures from 1912 to Nov. 30, 1925, inclusive, were \$115,976.60.

## BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and of operating the draw and maintaining the bridge shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1925, was 2,406. In 1924 the number was 2,948; in 1923, 2,258; and in 1922, 2,083.

The total expenditures during the year ending Nov. 30, 1925, were \$31,599.53.

The total expenditures from 1912 to Nov. 30, 1925, inclusive, were \$246,770.19.

## CONSTRUCTION OF TOWN AND COUNTY WAYS.

(Section 34, chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921.)

During the year the Division has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:—

COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length con- tracted for (Feet).
	State.	Town.	County.		
<i>Barnstable County.</i>					
Barnstable . . . . .	\$10,000 00	\$10,000 00	\$10,000 00	Bituminous concrete . . . . .	4,748
Harwich . . . . .	8,000 00	8,000 00	8,000 00	Bituminous concrete . . . . .	5,638
Mashpee . . . . .	41,000 00	—	8,000 00	Bituminous concrete . . . . .	9,354
Sandwich . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	2,600
<i>Berkshire County.</i>					
Alford . . . . .	500 00	500 00	500 00	Gravel . . . . .	2,300
Clarksburg . . . . .	500 00	500 00	500 00	Gravel . . . . .	5,000
Egremont . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	900
Florida . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	1,300
Hancock . . . . .	2,000 00	—	2,000 00	Gravel . . . . .	1,450
Mount Washington . . . . .	500 00	500 00	500 00	Gravel . . . . .	450
New Marlborough . . . . .	3,000 00	1,000 00	2,000 00	Gravel . . . . .	2,500
New Marlborough . . . . .	500 00	500 00	—	Gravel . . . . .	350
New Marlborough . . . . .	1,000 00	2,000 00	1,000 00	Gravel . . . . .	1,350
Otis . . . . .	500 00	700 00	500 00	Grading . . . . .	5,700
Otis . . . . .	500 00	500 00	500 00	Gravel . . . . .	450
Peru . . . . .	500 00	500 00	500 00	Gravel . . . . .	550
Richmond . . . . .	2,000 00	1,000 00	—	Gravel . . . . .	600
Savoy . . . . .	15,000 00	—	5,000 00	Gravel . . . . .	3,400
Sheffield . . . . .	500 00	500 00	500 00	Gravel . . . . .	500
Stockbridge . . . . .	20,000 00	10,000 00	—	Bituminous macadam . . . . .	4,000
Tyringham . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Washington . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	700
West Stockbridge . . . . .	22,000 00	18,000 00	—	Bituminous macadam . . . . .	5,500
West Stockbridge . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,450
Williamstown . . . . .	2,000 00	4,000 00	—	Gravel . . . . .	1,450
Windsor . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
<i>Bristol County.</i>					
Acushnet . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,000
Berkley . . . . .	1,000 00	1,000 00	—	Gravel . . . . .	1,200
Berkley . . . . .	1,500 00	1,500 00	—	Repairs and oiling . . . . .	33,205
Dighton . . . . .	500 00	500 00	—	Waterbound macadam . . . . .	350
Dighton . . . . .	5,000 00	7,500 00	—	Bituminous macadam . . . . .	2,033
Easton . . . . .	10,000 00	10,000 00	—	Bituminous macadam . . . . .	2,700
Fairhaven . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	2,350
Freetown . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	1,700
Rehoboth . . . . .	5,500 00	5,500 00	5,500 00	Waterbound macadam . . . . .	3,336
Seekonk . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	3,600
Swansea . . . . .	1,000 00	2,000 00	1,000 00	Bituminous macadam . . . . .	810
Westport . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,380
<i>Dukes County.</i>					
Tisbury . . . . .	12,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	7,707
<i>Essex County.</i>					
Amesbury . . . . .	5,000 00	8,000 00	5,000 00	Bituminous macadam . . . . .	2,050
Andover . . . . .	9,000 00	9,000 00	9,000 00	Bituminous macadam . . . . .	3,600
Boxford . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,850
Danvers . . . . .	13,000 00	13,000 00	13,000 00	Bituminous macadam . . . . .	3,410
Essex . . . . .	2,500 00	2,500 00	—	Repairs and oiling . . . . .	25,660
Georgetown . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,100
Groveland . . . . .	20,500 00	20,500 00	20,500 00	Bituminous macadam . . . . .	9,715
Hamilton . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,000
Ipswich . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	600



COUNTIES AND TOWNS	CONTRIBUTIONS.			Type of Road.	Length Con- tracted for (Feet).
	State.	Town.	County.		
<i>Essex County — Con.</i>					
Merrimac . . . . .	\$6,000 00	\$6,000 00	\$6,000 00	Bituminous macadam . . . . .	1,960
Methuen . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,030
Newbury . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,700
North Andover . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,485
Rockport . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,096
Rowley . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Swampscott . . . . .	12,000 00	24,000 00	12,000 00	Reinforced cement concrete . . . . .	2,575
West Newbury . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	5,000
<i>Franklin County.</i>					
Ashfield . . . . .	2,500 00	1,500 00	1,000 00	Gravel . . . . .	2,200
Ashfield . . . . .	4,500 00	4,500 00	—	Gravel . . . . .	3,500
Buckland . . . . .	5,000 00	4,000 00	1,000 00	Gravel . . . . .	3,200
Charlemont . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	850
Colrain . . . . .	2,500 00	1,500 00	1,000 00	Gravel . . . . .	3,280
Colrain . . . . .	500 00	500 00	—	Repairs . . . . .	40,656
Conway . . . . .	2,000 00	2,000 00	1,000 00	Gravel . . . . .	2,500
Gill . . . . .	18,000 00	1,000 00	5,000 00	Gravel . . . . .	3,800
Hawley . . . . .	1,500 00	500 00	1,000 00	Gravel . . . . .	1,600
Leverett . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,800
Leyden . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,500
New Salem . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	3,000
Orange . . . . .	2,000 00	2,000 00	1,000 00	Gravel . . . . .	2,413
Rowe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,700
Shelburne . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	1,500
Shelburne . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,200
Shutesbury . . . . .	800 00	400 00	400 00	Gravel . . . . .	1,582
Sunderland . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	900
Warwick . . . . .	1,000 00	800 00	1,000 00	Gravel . . . . .	1,100
Warwick . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	850
Wendell . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	800
Whately . . . . .	5,000 00	3,000 00	2,000 00	Bituminous macadam . . . . .	2,400
<i>Hampden County.</i>					
Blandford . . . . .	5,000 00	1,000 00	5,000 00	Gravel . . . . .	3,000
Brimfield . . . . .	200 00	200 00	200 00	Gravel . . . . .	250
Chester . . . . .	3,000 00	1,500 00	3,000 00	Gravel . . . . .	3,550
East Longmeadow . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	3,400
East Longmeadow . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,000
East Longmeadow . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	2,875
Granville . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	1,666
Hampden . . . . .	6,000 00	3,000 00	6,000 00	Bituminous macadam . . . . .	4,000
Ludlow . . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . . . . .	10,200
Montgomery . . . . .	1,000 00	300 00	1,000 00	Gravel . . . . .	700
Southwick . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,150
Southwick . . . . .	1,000 00	3,000 00	—	Bridge abutment . . . . .	—
Tolland . . . . .	2,000 00	1,500 00	2,000 00	Gravel . . . . .	1,900
Westfield . . . . .	20,000 00	10,000 00	11,250 00	Bituminous macadam . . . . .	4,345
West Springfield . . . . .	26,000 00	20,000 00	26,000 00	Bituminous macadam . . . . .	5,300
West Springfield . . . . .	61,600 00	5,600 00	33,550 00	Bridge and approaches . . . . .	1,250
Wilbraham . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	828
<i>Hampshire County.</i>					
Belchertown . . . . .	105,000 00	—	35,000 00	Bituminous macadam . . . . .	15,122
Belchertown . . . . .	60,000 00	—	20,000 00	Bituminous macadam . . . . .	11,497
Chesterfield . . . . .	500 00	500 00	500 00	Gravel . . . . .	600
Chesterfield . . . . .	4,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Enfield . . . . .	6,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,014
Goshen . . . . .	1,500 00	1,000 00	500 00	Gravel . . . . .	1,200
Greenwich . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,800
Hatfield . . . . .	3,400 00	2,400 00	—	Bituminous macadam . . . . .	1,700
Huntington . . . . .	2,000 00	1,000 00	500 00	Gravel . . . . .	1,050
Pelham . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,400
Plainfield . . . . .	6,000 00	500 00	2,000 00	Gravel . . . . .	1,500
Prescott . . . . .	1,000 00	400 00	500 00	Gravel . . . . .	600
<i>Middlesex County.</i>					
Acton . . . . .	2,100 00	2,100 00	2,100 00	Gravel . . . . .	2,000
Acton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,800
Arlington . . . . .	15,000 00	15,000 00	15,000 00	Reinforced cement concrete . . . . .	5,425
Ashby . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	18,480
Bedford . . . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . . . .	810
Bedford . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,400
Billerica . . . . .	50,000 00	25,000 00	—	Bituminous macadam . . . . .	8,200
Billerica . . . . .	17,000 00	8,000 00	—	Bituminous macadam . . . . .	4,400
Boxborough . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	20,064
Boxborough . . . . .	1,200 00	600 00	1,200 00	Gravel . . . . .	1,821
Burlington . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	3,500
Burlington . . . . .	1,600 00	1,600 00	—	Repairs and oiling . . . . .	26,400
Carlisle . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,400
Concord . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,640
Dracut . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,207
Dunstable . . . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . . . .	36,432
Groton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,700

COUNTIES AND TOWNS	CONTRIBUTIONS.			Type of Road.	Length Con- tracted for (Feet).
	State.	Town.	County.		
Middlesex County—Con.					
Holliston . . . . .	\$2,700 00	\$2,700 00	\$2,700 00	Gravel . . . . .	4,000
Hopkinton . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	2,000
Lincoln . . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . . . . .	4,000
Littleton . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	29,040
Littleton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,000
Maynard . . . . .	14,000 00	14,000 00	14,000 00	Bituminous macadam . . . . .	5,650
Natick . . . . .	10,000 00	10,000 00	10,000 00	Gravel . . . . .	7,700
North Reading . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	48,840
Pepperell . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	20,550
Pepperell . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,800
Sherborn . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	4,000
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	6,600
Sudbury . . . . .	2,500 00	2,500 00	2,500 00	Repairs and oiling . . . . .	62,304
Tyngsborough . . . . .	2,400 00	2,400 00	2,400 00	Gravel . . . . .	4,700
Tyngsborough . . . . .	700 00	700 00	700 00	Repairs and oiling . . . . .	23,760
Tyngsborough . . . . .	900 00	—	900 00	Bituminous macadam . . . . .	200
Wakefield . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,000
Wayland . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,600
Wayland . . . . .	3,000 00	4,000 00	3,000 00	Repairs and oiling . . . . .	51,744
Westford . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	45,900
Weston . . . . .	6,300 00	6,300 00	6,300 00	Bituminous macadam . . . . .	1,700
Wilmington . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,200
Wilmington . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	18,350
Nantucket County.					
Nantucket . . . . .	15,000 00	15,000 00	—	Bituminous concrete . . . . .	6,438
Norfolk County.					
Avon . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,874
Bellingham . . . . .	7,000 00	7,000 00	7,000 00	Bridge and approaches . . . . .	2,092
Bellingham . . . . .	10,000 00	5,000 00	5,000 00	Gravel . . . . .	25,800
Canton . . . . .	8,333 00	8,333 00	8,333 00	Bituminous macadam . . . . .	2,350
Dedham . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	5,150
Dover . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,486
Foxborough . . . . .	1,600 00	1,600 00	1,600 00	Bituminous macadam . . . . .	375
Franklin . . . . .	6,000 00	6,000 00	6,000 00	Gravel . . . . .	5,800
Holbrook . . . . .	5,500 00	5,500 00	5,500 00	Bituminous macadam . . . . .	2,331
Medfield . . . . .	8,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	2,484
Medfield . . . . .	1,800 00	1,800 00	1,800 00	Gravel . . . . .	1,250
Medway . . . . .	4,500 00	4,500 00	4,500 00	Gravel . . . . .	2,650
Medway . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	18,480
Millis . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,250
Millis . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,728
Needham . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,000
Norfolk . . . . .	6,000 00	4,000 00	6,000 00	Gravel . . . . .	5,061
Norfolk . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	21,648
Randolph . . . . .	3,333 00	3,333 00	3,333 00	Bituminous macadam . . . . .	989
Sharon . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,800
Stoughton . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	7,150
Walpole . . . . .	4,000 00	8,000 00	4,000 00	Bituminous concrete . . . . .	2,350
Walpole . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	1,978
Westwood . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,432
Westwood . . . . .	2,100 00	2,100 00	2,100 00	Bituminous macadam . . . . .	800
Plymouth County.					
Carver . . . . .	2,500 00	2,500 00	2,500 00	Bituminous concrete . . . . .	2,400
Carver . . . . .	4,000 00	4,000 00	4,000 00	Bituminous concrete . . . . .	6,200
Duxbury . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	5,300
East Bridgewater . . . . .	10,000 00	10,000 00	10,000 00	Bituminous concrete . . . . .	5,703
East Bridgewater . . . . .	8,000 00	4,000 00	—	Bituminous concrete . . . . .	4,040
East Bridgewater . . . . .	6,000 00	—	3,000 00	Bituminous concrete . . . . .	2,295
Halifax . . . . .	4,000 00	4,000 00	4,000 00	Bituminous concrete . . . . .	3,950
Hanson . . . . .	2,500 00	2,500 00	2,500 00	Bituminous macadam . . . . .	1,727
Kingston . . . . .	6,350 00	6,350 00	6,350 00	Bituminous macadam . . . . .	6,700
Lakeville . . . . .	7,500 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,591
Middleborough . . . . .	4,000 00	4,000 00	2,000 00	Gravel . . . . .	11,200
Norwell . . . . .	2,000 00	500 00	1,500 00	Waterbound macadam . . . . .	768
Pembroke . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	5,350
Plympton . . . . .	1,300 00	1,300 00	1,300 00	Bituminous concrete . . . . .	810
Rochester . . . . .	1,000 00	500 00	—	Repairs and oiling . . . . .	10,800
Rockland . . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . . . . .	4,000
West Bridgewater . . . . .	7,000 00	7,000 00	7,000 00	Bituminous concrete . . . . .	3,500
Whitman . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	1,400
Worcester County.					
Ashburnham . . . . .	12,500 00	7,500 00	10,000 00	Bituminous macadam . . . . .	3,950
Barre . . . . .	8,000 00	5,000 00	8,000 00	Gravel . . . . .	2,900
Berlin . . . . .	5,000 00	3,000 00	5,000 00	Bituminous macadam . . . . .	4,000
Blackstone . . . . .	3,500 00	3,500 00	3,500 00	Gravel . . . . .	5,400
Bolton . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	11,700
Boylston . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	38,016
Boylston . . . . .	18,000 00	6,000 00	12,000 00	Bituminous macadam . . . . .	5,900
Brookfield . . . . .	500 00	500 00	500 00	Gravel . . . . .	1,300
Dana . . . . .	2,500 00	1,000 00	2,500 00	Gravel . . . . .	4,050



COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length Con- tracted for (Feet).
	State.	Town.	County.		
Worcester County — Con.					
Dudley . . . . .	\$800 00	\$800 00	—	Repairs and oiling . . . . .	13,522
Grafton . . . . .	25,000 00	—	\$20,000 00	Reinforced cement concrete . . . . .	3,652
Harvard . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam (and bridge)	2,351
Hubbardston . . . . .	9,500 00	1,000 00	4,500 00	Gravel and repairs . . . . .	24,816
Leicester . . . . .	3,000 00	3,000 00	3,000 00	Bridge and approaches . . . . .	270
Lunenburg . . . . .	20,000 00	7,000 00	20,000 00	Bituminous macadam . . . . .	7,000
Lunenburg . . . . .	500 00	—	500 00	Gravel . . . . .	3,696
Mendon . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,500
Millville . . . . .	7,000 00	7,000 00	—	Reinforced cement concrete . . . . .	1,944
New Braintree . . . . .	12,000 00	3,500 00	7,000 00	Bituminous macadam . . . . .	4,389
Northborough . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	1,890
Northbridge . . . . .	25,000 00	25,000 00	15,000 00	Bridge and approaches . . . . .	1,850
Paxton . . . . .	7,000 00	5,000 00	5,000 00	Gravel . . . . .	4,650
Petersham . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,800
Phillipston . . . . .	3,000 00	1,000 00	3,000 00	Gravel . . . . .	2,900
Princeton . . . . .	8,000 00	4,000 00	8,000 00	Gravel . . . . .	5,150
Royalston . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	800
Rutland . . . . .	500 00	500 00	500 00	Gravel . . . . .	500
Rutland . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	2,575
Sterling . . . . .	4,000 00	2,000 00	4,000 00	Gravel (and bridge) . . . . .	1,230
Southborough . . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . . . . .	3,275
Sutton . . . . .	9,500 00	4,000 00	6,500 00	Bituminous macadam . . . . .	4,184
Uxbridge . . . . .	8,500 00	6,500 00	7,000 00	Bituminous macadam . . . . .	5,125
Westborough . . . . .	10,000 00	10,000 00	4,000 00	Bituminous macadam . . . . .	4,000
West Boylston . . . . .	1,250 00	1,250 00	1,250 00	Gravel . . . . .	1,500
West Brookfield . . . . .	2,000 00	250 00	1,250 00	Repairs and oiling . . . . .	22,470
Westminster . . . . .	6,000 00	4,000 00	6,000 00	Gravel . . . . .	5,000
Winchendon . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,500

The expenditures during the year in various counties were: —

Barnstable, \$68,636.76	Hampshire, \$205,758.35
Berkshire, \$117,944.02	Middlesex, \$204,633.06
Bristol, \$56,971.53	Nantucket, \$12,419.65
Dukes, \$15,098.72	Norfolk, \$155,790.76
Essex, \$113,199.56	Plymouth, \$96,583.97
Franklin, \$80,758.63	Worcester, \$234,568.66
Hampden, \$148,780.88	Total, \$1,511,144.55

Details of the foregoing expenditures follow: —

*Barnstable County.*— Barnstable, \$10,263.57; Chatham, \$346.05; Harwich, \$9,132.72; Mashpee, \$44,999.60; Sandwich, \$3,894.82.

*Berkshire County.*— Alford, \$559.80; Becket, \$154.13; Clarksburg, \$559.80; Egremont, \$1,119.59; Florida, \$2,239.18; Hancock, \$7,316.60; Hinsdale, \$2,636.51; Lanesborough, \$4,479.81; Monterey, \$7,290.07; Mount Washington, \$559.80; New Marlborough, \$5,037.36; Otis, \$8,487.09; Peru, \$7,974.25; Richmond, \$2,238.97; Savoy, \$12,625.54; Sheffield, \$559.80; Stockbridge, \$22,198.09; Tyringham, \$1,119.59; Washington, \$1,119.59; West Stockbridge, \$26,309.68; Williamstown, \$2,239.18; Windsor, \$1,119.59.

*Bristol County.*— Acushnet, \$5,597.95; Berkley, \$2,798.98; Dighton, \$4,988.66; Easton, \$10,562.96; Fairhaven, \$6,717.55; Freetown, \$5,781.50; Rehoboth, \$5,750.52; Seekonk, \$10,295.05; Swansea, \$1,119.59; Westport, \$3,358.77.

*Dukes County.*— Tisbury, \$13,217.38; West Tisbury, \$1,881.34.

*Essex County.*— Amesbury, \$3,825.14; Andover, \$9,238.79; Boxford, \$2,239.18; Danvers, \$10,998.28; Essex, \$2,798.98; Georgetown, \$2,239.18; Groveland, \$22,864.89; Hamilton, \$4,484.10; Ipswich, \$3,955.51; Merrimac, \$5,944.93; Methuen, \$11,195.91; Newbury, \$2,239.18; North Andover, \$2,991.23; Rockport, \$8,036.18; Rowley, \$1,119.59; Saugus, \$710.85; Swampscott, \$12,719.69; West Newbury, \$5,597.95.

*Franklin County.*— Ashfield, \$8,489.36; Buckland, \$5,597.95; Charlemont, \$1,119.55; Colrain, \$3,358.77; Conway, \$2,239.18; Gill, \$17,151.31; Hawley, \$1,679.39; Leverett, \$1,118.70; Leyden, \$1,119.59; New Salem, \$2,239.18; Orange, \$2,205.92; Rowe, \$2,239.18; Shelburne, \$4,478.36; Shutesbury, \$895.67; Sunderland, \$1,119.59; Warwick, \$18,989.39; Wendell, \$1,119.59; Whately, \$5,597.95.

*Hampden County.*— Blandford, \$5,597.95; Brimfield, \$199.59; Chester, \$3,358.77; East Longmeadow, \$7,837.14; Granville, \$4,478.36; Hampden, \$6,717.55;

Ludlow, \$5,583.11; Montgomery, \$1,119.59; Southwick, \$2,563.93; Tolland, \$2,239.18; West Springfield, \$73,781.65; Westfield, \$2,192.24; Wilbraham, \$33,111.82.

*Hampshire County.*—Amherst, \$12,705.91; Belchertown, \$157,345.24; Chesterfield, \$5,807.65; Cummington, \$213.94; Enfield, \$6,717.55; Goshen, \$1,967.05; Greenwich, \$1,119.55; Hatfield, \$3,506.97; Huntington, \$2,239.18; Middlefield, \$5,624.25; Pelham, \$1,393.76; Plainfield, \$364.27; Prescott, \$1,119.11; Williamsburg, \$288.96; Worthington, \$5,344.96.

*Middlesex County.*—Acton, \$4,590.32; Arlington, \$14,573.18; Ashby, \$1,119.59; Ashland, \$559.80; Bedford, \$7,148.08; Billerica, \$49,724.66; Boxborough, \$1,903.30; Burlington, \$4,988.45; Carlisle, \$1,119.59; Concord, \$5,597.95; Dracut, \$8,531.55; Dunstable, \$1,959.28; Groton, \$2,239.18; Holliston, \$3,022.90; Hopkinton, \$4,478.36; Lincoln, \$8,396.93; Littleton, \$3,358.77; Maynard, \$15,658.47; Natick, \$11,016.77; North Reading, \$1,343.51; Pepperell, \$2,949.00; Sherborn, \$2,239.18; Sudbury, \$5,597.95; Townsend, \$163.47; Tyngsborough, \$4,478.36; Wakefield, \$10,371.16; Wayland, \$13,853.91; Westford, \$4,478.36; Weston, \$6,381.02; Wilmington, \$2,790.01.

*Nantucket County.*—Nantucket, \$12,419.65.

*Norfolk County.*—Avon, \$3,298.89; Bellingham, \$15,855.91; Canton, \$8,325.33; Dedham, \$10,654.03; Dover, \$4,597.29; Foxborough, \$3,413.01; Franklin, \$6,717.55; Holbrook, \$5,513.91; Medfield, \$10,894.44; Medway, \$6,157.75; Millis, \$14,596.65; Needham, \$11,195.91; Norfolk, \$6,080.58; Randolph, \$5,259.92; Sharon, \$6,195.33; Stoughton, \$17,143.65; Walpole, \$10,307.95; Westwood, \$9,582.66.

*Plymouth County.*—Carver, \$7,090.74; Duxbury, \$5,597.95; East Bridgewater, \$26,040.62; Halifax, \$3,477.12; Hanson, \$2,442.97; Kingston, \$6,994.64; Lakeville, \$10,609.04; Middleborough, \$6,603.83; Norwell, \$1,814.72; Pembroke, \$5,597.95; Plymouth, \$773.43; Plympton, \$1,614.94; Rochester, \$1,119.60; Rockland, \$8,395.43; West Bridgewater, \$4,052.88; Whitman, \$4,358.11.

*Worcester County.*—Ashburnham, \$7,604.31; Barre, \$8,029.49; Berlin, \$5,569.94; Bolton, \$1,050.76; Boylston, \$18,244.02; Brookfield, \$559.80; Dana, \$2,798.98; Dudley, \$839.69; Grafton, \$22,399.52; Harvard, \$7,401.69; Hubbardston, \$10,299.59; Leicester, \$3,279.34; Lunenburg, \$18,973.89; Mendon, \$1,119.59; Milford, \$828.02; Millville, \$7,157.57; New Braintree, \$13,435.09; Northborough, \$5,086.96; Northbridge, \$17,958.77; Oxford, \$2,239.18; Paxton, \$7,279.35; Petersham, \$3,358.77; Phillipston, \$3,269.88; Princeton, \$8,928.74; Royalston, \$1,119.59; Rutland, \$5,038.16; Southborough, \$4,592.91; Sterling, \$4,450.37; Sutton, \$8,218.97; Uxbridge, \$8,939.11; West Boylston, \$1,399.49; West Brookfield, \$1,814.02; Westborough, \$10,115.18; Westminster, \$6,689.56; Winchendon, \$4,478.36.

## REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1921, and by chapter 281, Acts of 1922).

During the year the Division has contracted for work to be done in the towns named in the following table, which also shows the allotments or contributions by the State and towns:—

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Barnstable County:			
Brewster . . . . .	39	\$2,925 00	\$3,900 00
Dennis . . . . .	79	5,925 00	5,925 00
Eastham . . . . .	39	2,925 00	1,950 00
Harwich . . . . .	74	5,550 00	7,400 00
Mashpee . . . . .	27	2,025 00	2,025 00
Sandwich . . . . .	66	4,950 00	4,950 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Barnstable County — <i>Concluded.</i>			
Truro . . . . .	27	\$2,025 00	\$2,025 00
Wellfleet . . . . .	35	2,625 00	3,500 00
Yarmouth . . . . .	60	4,500 00	7,500 00
Berkshire County:			
Alford . . . . .	20	1,500 00	800 00
Becket . . . . .	60	4,500 00	3,000 00
Cheshire . . . . .	42	3,150 00	4,200 00
Egremont . . . . .	31	2,325 00	3,100 00
Florida . . . . .	42	3,150 00	4,200 00
Hancock . . . . .	30	2,250 00	1,500 00
Hinsdale . . . . .	37	2,775 00	2,775 00
Lanesborough . . . . .	39	2,925 00	2,925 00
Monterey . . . . .	52	3,900 00	2,080 00
Mount Washington . . . . .	20	1,500 00	800 00
New Ashford . . . . .	9	675 00	360 00
New Marlborough . . . . .	85	6,375 00	4,250 00
Otis . . . . .	53	3,975 00	1,325 00
Peru . . . . .	37	2,775 00	555 00
Richmond . . . . .	36	2,700 00	1,800 00
Sandisfield . . . . .	84	6,300 00	1,260 00
Savoy . . . . .	56	4,200 00	840 00
Sheffield . . . . .	77	5,775 00	5,775 00
Tyringham . . . . .	25	1,875 00	1,875 00
Washington . . . . .	51	3,825 00	765 00
West Stockbridge . . . . .	38	2,850 00	2,850 00
Windsor . . . . .	66	4,950 00	990 00
Bristol County:			
Berkley . . . . .	42	3,150 00	2,100 00
Freetown . . . . .	47	3,525 00	4,700 00
Norton . . . . .	57	4,275 00	7,125 00
Raynham . . . . .	44	3,300 00	4,400 00
Rehoboth . . . . .	106	7,950 00	5,300 00
Swansea . . . . .	46	3,450 00	6,900 00
Dukes County:			
Edgartown . . . . .	39	2,925 00	5,850 00
Essex County:			
Boxford . . . . .	51	3,825 00	3,825 00
Georgetown . . . . .	34	2,550 00	4,250 00
Groveland . . . . .	30	2,250 00	4,500 00
Merrimac . . . . .	30	2,250 00	5,250 00
Middleton . . . . .	28	2,100 00	3,500 00
Rowley . . . . .	30	2,250 00	3,750 00
West Newbury . . . . .	37	2,775 00	3,700 00
Franklin County:			
Ashfield . . . . .	82	6,150 00	3,280 00
Bernardston . . . . .	41	3,075 00	2,050 00
Buckland . . . . .	45	3,375 00	6,750 00
Charlemont . . . . .	50	3,750 00	2,500 00
Colrain . . . . .	87	6,525 00	6,525 00
Conway . . . . .	76	5,700 00	3,040 00
Gill . . . . .	36	2,700 00	2,700 00
Hawley . . . . .	49	3,675 00	735 00
Heath . . . . .	54	4,050 00	1,350 00
Leverett . . . . .	38	2,850 00	1,520 00
Leyden . . . . .	41	3,075 00	1,025 00
Monroe . . . . .	18	1,350 00	1,800 00

Counties and Towns.		Miles of Road.	Allotments.	
Franklin County — <i>Concluded.</i>			State.	Town.
New Salem		64	\$4,800 00	\$1,600 00
Northfield		72	5,400 00	5,400 00
Rowe		41	3,075 00	1,025 00
Shutesbury		40	3,000 00	1,600 00
Sunderland		34	2,550 00	3,400 00
Warwick		56	4,200 00	2,240 00
Wendell		47	3,525 00	3,525 00
Whately		41	3,075 00	3,075 00
Hampden County:				
Blandford		83	6,225 00	3,320 00
Brimfield		60	4,500 00	3,000 00
Chester		66	4,950 00	3,300 00
East Longmeadow		32	2,400 00	5,600 00
Granville		75	5,625 00	3,000 00
Hampden		34	2,550 00	1,700 00
Holland		30	2,250 00	450 00
Monson		110	8,250 00	8,250 00
Montgomery		28	2,100 00	700 00
Southwick		50	3,750 00	5,000 00
Tolland		42	3,150 00	1,050 00
Wales		25	1,875 00	1,250 00
Wilbraham		42	3,150 00	7,350 00
Hampshire County:				
Belchertown		112	8,400 00	4,480 00
Chesterfield		58	4,350 00	1,450 00
Cummington		49	3,675 00	1,225 00
Enfield		37	2,775 00	2,775 00
Goshen		28	2,100 00	1,120 00
Granby		46	3,450 00	3,450 00
Greenwich		39	2,925 00	1,950 00
Huntington		39	2,925 00	3,900 00
Middlefield		36	2,700 00	900 00
Pelham		40	3,000 00	2,000 00
Plainfield		48	3,600 00	720 00
Prescott		39	2,925 00	975 00
Southampton		62	4,650 00	2,480 00
Westhampton		48	3,600 00	1,200 00
Williamsburg		42	3,150 00	4,200 00
Worthington		73	5,475 00	1,825 00
Middlesex County:				
Acton		57	4,275 00	7,125 00
Ashby		57	4,275 00	4,275 00
Ashland		39	2,925 00	6,825 00
Boxborough		23	1,725 00	1,150 00
Burlington		37	2,775 00	4,625 00
Carlisle		44	3,300 00	1,760 00
Dunstable		38	2,850 00	1,900 00
Holliston		49	3,675 00	7,350 00
Hopkinton		66	4,950 00	6,600 00
Lincoln		40	3,000 00	6,000 00
Littleton		42	3,150 00	5,250 00
Sherborn		42	3,150 00	5,250 00
Shirley		45	3,375 00	6,750 00
Stow		45	3,375 00	4,500 00
Townsend		66	4,950 00	6,600 00
Tyngsborough		41	3,075 00	3,075 00
Wilmington		43	3,225 00	7,525 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
Norfolk County:			
Bellingham . . . . .	42	\$3,150 00	\$5,250 00
Medway . . . . .	44	3,300 00	7,700 00
Norfolk . . . . .	41	3,075 00	4,100 00
Plainville . . . . .	34	2,550 00	5,100 00
Wrentham . . . . .	47	3,525 00	5,875 00
Plymouth County:			
Carver . . . . .	67	5,025 00	6,700 00
Halifax . . . . .	32	2,400 00	3,200 00
Lakeville . . . . .	45	3,375 00	4,500 00
Norwell . . . . .	47	3,525 00	4,700 00
Pembroke . . . . .	47	3,525 00	4,700 00
Plympton . . . . .	30	2,250 00	2,250 00
Rochester . . . . .	48	3,600 00	3,600 00
West Bridgewater . . . . .	39	2,925 00	5,850 00
Worcester County:			
Ashburnham . . . . .	77	5,775 00	5,775 00
Berlin . . . . .	39	2,925 00	2,925 00
Bolton . . . . .	53	3,975 00	2,650 00
Boylston . . . . .	40	3,000 00	2,000 00
Brookfield . . . . .	36	2,700 00	3,600 00
Charlton . . . . .	110	8,250 00	5,500 00
Dana . . . . .	45	3,375 00	1,800 00
Douglas . . . . .	70	5,250 00	7,000 00
East Brookfield . . . . .	19	1,425 00	2,375 00
Harvard . . . . .	56	4,200 00	5,600 00
Holden . . . . .	77	5,775 00	7,700 00
Hubbardston . . . . .	75	5,625 00	3,750 00
Lunenburg . . . . .	65	4,875 00	4,875 00
Mendon . . . . .	36	2,700 00	2,700 00
New Braintree . . . . .	49	3,675 00	1,960 00
Northborough . . . . .	47	3,525 00	5,875 00
Oakham . . . . .	45	3,375 00	1,800 00
Oxford . . . . .	75	5,625 00	7,500 00
Paxton . . . . .	30	2,250 00	2,250 00
Petersham . . . . .	71	5,325 00	5,325 00
Phillipston . . . . .	41	3,075 00	1,640 00
Princeton . . . . .	72	5,400 00	3,600 00
Royalston . . . . .	67	5,025 00	3,350 00
Rutland . . . . .	68	5,100 00	3,400 00
Sterling . . . . .	72	5,400 00	5,400 00
Sturbridge . . . . .	79	5,925 00	3,950 00
Sutton . . . . .	85	6,375 00	6,375 00
Upton . . . . .	60	4,500 00	4,500 00
West Boylston . . . . .	35	2,625 00	3,500 00
West Brookfield . . . . .	53	3,975 00	3,975 00
Westminster . . . . .	77	5,775 00	3,850 00

The expenditures during the year in various counties were: —

Barnstable, \$39,287.15  
 Berkshire, \$78,759.54  
 Bristol, \$28,901.28  
 Dukes, \$3,442.00  
 Essex, \$30,622.99  
 Franklin, \$88,115.65

Hampden, \$54,687.22  
 Hampshire, \$70,681.74  
 Middlesex, \$63,098.15  
 Norfolk, \$17,577.41  
 Plymouth, \$28,899.90  
 Worcester, \$148,319.62  
 Total, \$652,392.65

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$3,549.84; Dennis, \$7,492.92; Eastham, \$3,316.42; Harwich, \$6,262.65; Mashpee, \$2,257.30; Sandwich, \$5,999.97; Truro, \$2,565.16; Wellfleet, \$2,941.48; Yarmouth, \$4,901.41.

*Berkshire County.* — Alford, \$1,058.96; Becket, \$3,496.00; Cheshire, \$3,144.92; Egremont, \$2,650.93; Florida, \$3,882.38; Hancock, \$2,536.32; Hinsdale, \$3,100.62; Lanesborough, \$3,513.51; Monterey, \$3,469.35; Mount Washington, \$1,974.17; New Ashford, \$476.73; New Marlborough, \$7,297.85; Otis, \$3,986.30; Peru, \$2,726.77; Richmond, \$2,822.00; Sandisfield, \$7,209.70; Savoy, \$5,795.75; Sheffield, \$4,563.72; Tyringham, \$1,939.65; Washington, \$3,960.30; West Stockbridge, \$3,209.83; Windsor, \$5,943.78.

*Bristol County.* — Berkley, \$3,549.28; Freetown, \$3,971.81; Norton, \$4,816.88; Raynham, \$3,718.29; Rehoboth, \$8,957.71; Swansea, \$3,887.31.

*Dukes County.* — Edgartown, \$3,442.00.

*Essex County.* — Boxford, \$5,244.10; Georgetown, \$5,746.45; Groveland, \$2,861.96; Merrimac, \$5,070.40; Middleton, \$4,717.58; Rowley, \$2,535.20; West Newbury, \$4,447.30.

*Franklin County.* — Ashfield, \$7,295.74; Bernardston, \$3,508.05; Buckland, \$3,802.77; Charlemont, \$4,647.87; Colrain, \$7,397.99; Conway, \$6,450.68; Gill, \$3,267.10; Hawley, \$4,140.83; Heath, \$5,403.43; Leverett, \$3,211.25; Leyden, \$3,549.28; Monroe, \$1,605.63; New Salem, \$5,436.36; Northfield, \$6,338.00; Rowe, \$3,464.77; Shutesbury, \$3,436.60; Sunderland, \$2,873.23; Warwick, \$4,872.65; Wendell, \$4,112.66; Whately, \$3,295.76.

*Hampden County.* — Blandford, \$6,383.98; Brimfield, \$4,928.11; Chester, \$4,202.29; East Longmeadow, \$2,787.03; Granville, \$6,884.97; Hampden, \$3,070.05; Holland, \$2,535.20; Monson, \$7,611.75; Montgomery, \$2,366.19; Southwick, \$4,309.84; Tolland, \$3,562.62; Wales, \$2,129.71; Wilbraham, \$3,915.48.

*Hampshire County.* — Belchertown, \$10,281.64; Chesterfield, \$5,211.24; Cummington, \$4,104.83; Enfield, \$3,549.28; Goshen, \$2,422.52; Granby, \$4,366.18; Greenwich, \$3,547.33; Huntington, \$3,251.02; Middlefield, \$2,734.05; Pelham, \$3,746.46; Plainfield, \$4,056.32; Prescott, \$3,464.22; Southampton, \$5,632.58; Westhampton, \$4,394.35; Williamsburg, \$3,661.96; Worthington, \$6,221.76.

*Middlesex County.* — Acton, \$4,366.18; Ashby, \$4,704.20; Ashland, \$3,323.92; Boxborough, \$1,887.32; Burlington, \$3,042.24; Carlisle, \$3,690.12; Dunstable, \$2,197.17; Holliston, \$4,140.82; Hopkinton, \$5,577.44; Lincoln, \$3,408.44; Littleton, \$3,436.60; North Reading, \$112.67; Sherborn, \$3,661.86; Shirley, \$3,718.29; Stow, \$3,802.79; Townsend, \$5,492.93; Tyngsborough, \$3,408.44; Wilmington, \$3,126.72.

*Norfolk County.* — Bellingham, \$3,549.28; Medway, \$3,718.29; Norfolk, \$3,464.80; Plainville, \$2,873.23; Wrentham, \$3,971.81.

*Plymouth County.* — Carver, \$5,649.68; Halifax, \$2,752.51; Lakeville, \$3,792.05; Norwell, \$3,853.53; Pembroke, \$2,968.64; Plympton, \$2,554.16; Rochester, \$4,225.29; West Bridgewater, \$3,104.04.

*Worcester County.* — Ashburnham, \$6,321.50; Berlin, \$2,946.72; Bolton, \$4,478.85; Boylston, \$3,380.27; Brookfield, \$2,167.30; Charlton, \$8,686.60; Dana, \$3,815.28; Douglas, \$5,823.07; East Brookfield, \$1,535.07; Harvard, \$4,732.37; Holden, \$6,166.61; Hubbardston, \$5,670.59; Lunenburg, \$5,440.79; Mendon, \$2,755.06; New Braintree, \$4,086.69; Northborough, \$3,971.81; Oakham, \$3,814.52; Oxford, \$6,112.78; Paxton, \$2,064.59; Petersham, \$5,999.97; Phillipston, \$3,203.83; Princeton, \$6,084.48; Royalston, \$5,661.94; Rutland, \$5,263.16; Sterling, \$6,033.62; Sturbridge, \$6,193.11; Sutton, \$6,697.16; Upton, \$5,238.94; West Boylston, \$2,699.01; West Brookfield, \$4,766.92; Westminster, \$6,507.01.

## CONTRACTS FOR THE RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF AN APPROPRIATION.

In Nov., 1925, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding



\$1,161,250, this amount being twenty-five per cent of the appropriation of \$4,645,000 for the fiscal year ending Nov. 30, 1925. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 4, 1925.

## REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1924-1925.

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, the Division adopted on Feb. 17, 1925 regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways during the season. These regulations were in effect in the following counties during the periods stated:—

Barnstable, Bristol, Norfolk and Plymouth Counties, February 23 to April 18; Essex, Hampden, Middlesex and Worcester Counties, March 2 to April 25; Berkshire, Franklin and Hampshire Counties, March 9 to May 2.

## RULES AND REGULATIONS DETERMINING WEIGHT AND CARRYING CAPACITY OF MOTOR VEHICLES.

In accordance with the provisions of section 33, chapter 90, General Laws, as amended by chapter 342, Acts of 1925, the following Rules and Regulations determining the weight and carrying capacity of motor vehicles, trailers and semi-trailer units used for the transportation of goods, wares or merchandise were adopted by the Commissioner of Public Works on Sept. 30, 1925, to be in effect on and after Jan. 1, 1926, as follows:—

"1. The weight and maximum carrying capacity of all such vehicles weighing 4,000 pounds or less shall be fixed at 4,000 pounds.

"2. For each 1,000 pounds' weight or fractional part thereof in excess of 4,000 pounds the weight and maximum carrying capacity of all such vehicles shall be increased at the rate of 1,000 pounds, but the maximum weight and maximum carrying capacity of such vehicles shall not exceed 28,000 pounds.

"The aforesaid weights and maximum carrying capacity shall mean the weight of such vehicles when loaded and full equipped for the road.

"These Rules and Regulations shall not apply to motor trucks, motor busses, trailers and semi-trailer units owned by a city or town in the commonwealth and used solely for municipal business; or to motor busses not so owned but used exclusively under contract for the transportation of school children; or to electric motor trucks or electric commercial vehicles used for the transportation of goods, wares or merchandise; or to trucks, or trailers owned by or under the control of a manufacturer of or dealer in trucks or trailers.

"The Commissioner of Public Works hereby reserves the right to alter, amend or revoke the foregoing Rules and Regulations."

## RULES AND REGULATIONS DETERMINING HORSE POWER OF MOTOR VEHICLES.

In accordance with the provisions of section 2, chapter 90, General Laws, as amended by chapter 224, Acts of 1924, and after due notice and hearing, the following Rules and Regulations determining the horse power of every motor vehicle sought to be registered were adopted by the Division of Highways of the Department of Public Works on Oct. 27, 1925, to be in effect on and after Jan. 1, 1926:—

The following formula shall be used in determining the horse power of every automobile sought to be registered:—

$$\text{Horse power} = \frac{N \times D^2 \times S}{10}$$

N = Number of cylinders, D = Bore or internal diameter in inches,  
S = Stroke in inches.

The Department of Public Works, Division of Highways, hereby reserves the right to alter, amend or revoke the foregoing Rules and Regulations.

## PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES.

Chapter 280, Acts of 1925, amended chapter 159, General Laws, by inserting after section forty-eight, two new sections, 48A and 48B, relative to common carriers of passengers by motor vehicles. Under the provisions of section 48B no person shall operate a motor vehicle under a license granted under section 45 unless he has also obtained from the Department of Public Utilities a certificate declaring that public convenience and necessity require such operation. Section 48B provides as follows:—

“No certificate shall be issued under section forty-eight A unless the application therefor shall have been submitted to the division of highways of the department of public works. If, upon such submission, it appears to the division that the route or routes therein specified include any public way connecting a city or town with a city or cities or with a town or towns, or any way or place subject to the jurisdiction, supervision or control of said division or of the commissioner of public works, such certificate shall not be issued until the applicant has obtained from the division a written permit stating that the division consents to the use of said way or place for the purpose set forth in such application, and any requirements, stipulations or conditions imposed by said division and contained in such permit, as to speed, weight, character or operation of any vehicle on or over any such way or place, shall be as effectual and binding upon the licensee and his agents or servants as if contained in the license issued under section forty-five or in said certificate, and shall be set out or referred to in said certificate. Any change or revision of such certificate by the department shall not affect the requirements, stipulations or conditions imposed by said division, which may, after notice and hearing, revoke such permit, and may, in like manner, amend, revise or supplement any such requirements, stipulations or conditions. In case the division finds that such permit is not necessary, it shall so certify on said application. Nothing contained in sections forty-five to forty-eight B, inclusive, shall lessen or affect the authority or powers of said division or of the registrar of motor vehicles under chapter ninety with respect to motor vehicles and the owners or operators thereof.”

In accordance with the provisions of sections 48A and 48B, 184 permits were granted during the year by the Division of Highways.

## INTERSTATE HIGHWAY ROUTES AND SIGNS.

The Joint Board on Interstate Highways, which was appointed in 1925 under the approval of the U. S. Secretary of Agriculture, consisted of representatives of State Highway Departments and of the U. S. Bureau of Public Roads. This State was represented by the Commissioner of Public Works. The Joint Board selected and recommended a comprehensive system of through interstate routes and types of warning, directional and information signs for use on all the Federal-aid system of highways throughout the United States, which were approved by the Secretary of Agriculture. This Department has adopted the recommendations made by the Joint Board for use in this State. It is believed that the uniformity in all highway signs and signals will not only promote greater safety on the highways but will reduce congestion by increasing the continuity of movement of traffic.

## THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW.

(Sections 29–33, chapter 93, General Laws as amended.)

In accordance with the provisions of sections 29 to 33, inclusive, of chapter 93, General Laws as amended by chapters 85, 327, 334 and 490, Acts of 1924, the Division of Highways was directed to make rules and regulations for the proper control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, and on Jan. 24, 1924 the Division adopted new rules and regulations, superseding all



former issues, which were contained in the report for 1924, and have continued in force during the present year.

*Applications, Licenses and Permits.* — Licenses were granted to 48 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 561 applications received for permits for the erection of advertising signs, 381 permits were granted; also 451 permits were granted for the maintenance of signs erected. Four applications for the erection of new signs were not approved, because the locations were in violation of the rules and regulations adopted Jan. 24, 1924, and 28 applications were not approved for other reasons. A total of 943 applications for permits were cancelled.

A total of 1,478 renewal applications were sent to those whose permits were to expire June 30, 1925, and of this number 1,252 were returned to the Division requesting renewal; 134 requested that the permits be cancelled; and 19 returned applications were not approved, because the signs and locations did not conform to the rules and regulations. The number of renewal applications approved to be in force until June 30, 1926, was 1,052. The total number of permits in force Nov. 30, 1925, was 1,839.

*Receipts and Expenditures.* — The total receipts for the year ending Nov. 30, 1925, were \$10,348.71, and the expenditures for the same period were \$6,771.44.

*Removal of Signs.* — A large number of signs have been removed by the Division because they were located within the layouts of State highways.

Acting in accordance with the provisions of chapter 490, Acts of 1924, notices were served upon owners of property and of signs to remove such signs erected since Aug. 20, 1920, in violation of the rules and regulations adopted by the Division, and in all instances such signs were removed. In addition, approximately 140 signs have been removed by the owners of property or of signs after inspectors of the Division had explained that the signs were erected in violation of the law.

One advertiser was prosecuted and convicted in court for displaying and maintaining a sign in violation of the law relating to advertising signs and devices within public view.

On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others as complainants enjoining and restraining the Commissioners, constituting the Department of Public Work, Division of Highways, for the Commonwealth of Massachusetts, and each of them, their agents, servants, representatives and attorneys, until the further order of the court from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in court.

*Hearings.* — Hearings were granted to officials of Holyoke and Marlborough, who had objected to the granting of permits for advertising signs in their respective cities.

## SALE OF MAPS.

Under authority of Section 1, Chapter 81, General Laws, as amended by Section 1, Chapter 57, Acts of 1923, 132 copies of the road map of Massachusetts, edition of 1922, and 212 copies of the automobile route map of Massachusetts, edition of 1925, have been sold during the year ending Nov. 30, 1925, for which \$119.75 was received and paid into the treasury of the Commonwealth.

## RECOMMENDATIONS FOR LEGISLATION.

### DIVISION OF HIGHWAYS.

#### *Erection of Guide Posts and Other Devices upon Certain Ways by the Division of Highways.*

Inasmuch as it is deemed advisable that some of the powers and duties of the Division defined in Section one of Chapter eighty-one of the General Laws should be mandatory instead of permissive, it is recommended that said section be so

amended that the Division shall be required to erect and maintain guide posts, markers and other devices on State highways and certain other ways, for the purpose of promoting public safety and convenience.

*Erection of Guide Posts and Other Devices upon Certain Ways by Cities and Towns.*

For the purpose of carrying into effect a comprehensive system of guide posts, markers and other devices to be erected and maintained on certain ways in cities and towns, it is recommended that such devices as may be prescribed by the Division be so erected and maintained.

*Warning Signs at Certain Railroad Crossings at Grade.*

As it is advisable that the color of certain signs at such crossings be in conformity with the recommendation made to the Secretary of Agriculture by the Joint Board on Interstate Highways and approved by him for use on all railroad crossings at grade in the Federal Aid system of highways of the United States, it is recommended that Section one hundred and forty-two of Chapter one hundred and sixty of the General Laws be amended.

*Regulation of Traffic at Intersection of Ways.*

The importance of this subject is so great that the Division recommends legislation.

*Repair and Improvement of Public Ways in Small Towns.*

Recommendation is made for the further amendment of Chapter eighty-one of the General Laws, Section twenty-six.



## CONTRACT PRICES DEC. 1, 1924 TO NOV. 30, 1925.

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Mas. Conc. (Cu. Yd.).	BIT. SUR- FACING.		(Cu. Surf. Yd.).
		Earth (Cu. Yd.).	Borrow (Cu. Yd.).	Ledge (Cu. Yd.).		Asphal t (Gals.).	Tar (Gals.).	
Agawam . . . . .	Lane Const. Corp. . . . .	\$1 25	\$0 60	\$2 00	\$25 00	-	\$0 15	\$10 35
Andover . . . . .	J. W. O'Connell . . . . .	1 50	-	3 00	20 00	\$0 20	-	11 75
Arlington . . . . .	Jas. H. Fannon . . . . .	1 25	-	3 00	-	-	-	13 00
Ashburnham . . . . .	Samuel S. Catanese . . . . .	1 25	1 00	2 00	20 00	0 16	-	-
Auburn and Oxford . . . . .	T. G. Jewett Jr., Inc. . . . .	1 00	1 25	4 00	25 00	-	-	11 50
Avon . . . . .	Powers Bros. . . . .	1 00	-	4 00	-	0 15	-	-
Ayer . . . . .	Simpson Bros. Corp. . . . .	1 50	-	5 00	-	-	0 16	-
Barnstable . . . . .	Amos D. Bridge's Sons Co., Inc. . . . .	0 90	0 90	5 00	25 00	0 20	-	-
Barnstable . . . . .	Lane Const. Corp. . . . .	0 90	0 90	5 00	30 00	0 20	-	-
Barre . . . . .	John Laurenzi . . . . .	1 25	1 25	3 50	20 00	-	0 17	-
Belchertown . . . . .	Lane Const. Corp. . . . .	1 00	1 00	1 50	25 00	0 16	-	-
Bellingham . . . . .	A. D. Pasquale . . . . .	1 10	1 10	3 00	22 50	-	0 15	-
Billerica . . . . .	Greenough Const. Co. . . . .	1 10	1 00	4 00	20 00	0 14	-	-
Boylston . . . . .	C. E. Horne . . . . .	0 95	-	4 00	20 00	0 16	-	-
Brookfield . . . . .	B. Perini & Sons, Inc. . . . .	1 20	-	4 00	30 00	-	0 17	13 00
Canton . . . . .	Reynolds Bros., Inc. . . . .	1 30	-	5 00	-	0 14	-	-
Chatham-Harwich-Brew- ster-Orleans.	M. F. Roach . . . . .	0 70	0 70	4 00	20 00	0 18	-	-
Cohasset . . . . .	Bradford Weston . . . . .	1 25	-	5 00	24 00	0 15	-	-
Conway . . . . .	F. F. McCarthy . . . . .	1 00	1 00	4 00	24 00	-	-	-
Cummington . . . . .	Lane Const. Corp. . . . .	1 25	1 00	3 00	25 00	0 15	-	-
Dalton . . . . .	Carl B. Lindholm . . . . .	1 00	-	3 50	30 00	-	0 18	-
Danvers . . . . .	M. McDonough Co. . . . .	1 00	-	4 00	30 00	0 15	-	15 00
Dartmouth . . . . .	L. H. Callan . . . . .	1 10	-	4 00	20 00	0 15	-	11 00
Dedham . . . . .	Reynolds Bros., Inc. . . . .	1 10	-	3 00	-	0 145	-	-
Dighton . . . . .	Zebulon L. Canedy . . . . .	1 00	-	5 00	-	0 15	-	-
Dover-Walpole-Westwood . . . . .	McCabe & Giovannini . . . . .	0 90	1 00	3 00	30 00	0 14	-	-
Dracut . . . . .	Geo. O. Allard . . . . .	1 00	1 00	7 00	20 00	0 15	-	-
East Bridgewater . . . . .	D. J. Roach . . . . .	1 00	-	4 00	20 00	-	0 14	-
East Bridgewater . . . . .	Washburn & Sheridan . . . . .	1 25	1 25	4 00	22 00	0 15	-	-
Enfield . . . . .	Edwin F. Shumway and Fred M. Fuller . . . . .	1 00	1 05	3 50	25 00	0 19	-	-
Fairhaven and Mattapoisett . . . . .	New Haven Road Const. Co. . . . .	1 15	1 20	3 00	25 00	0 16	-	-
Fitchburg and Westminster . . . . .	Carlo Bianchi & Co. . . . .	0 90	0 90	3 50	30 00	0 17	-	-
Framingham, Ashland and Holliston.	Lane Const. Corp. . . . .	1 25	-	4 00	30 00	0 15	-	-
Freetown . . . . .	Canedy Const. Co. . . . .	1 20	1 10	5 00	-	0 15	-	-
Gill . . . . .	H. & J. P. Green . . . . .	0 95	-	3 00	25 00	-	-	-
Grafton . . . . .	C. A. Haggerty . . . . .	1 60	1 60	1 60	25 00	-	-	10 75
Groton . . . . .	C. E. Horne . . . . .	0 90	0 90	4 00	20 00	0 155	-	-
Groveland . . . . .	M. McDonough Co. . . . .	1 25	1 25	3 00	30 00	0 17	-	-
Halifax . . . . .	Otis R. Mann . . . . .	1 25	1 00	5 00	20 00	0 20	-	-
Hamilton . . . . .	Welch & Moynihan . . . . .	1 25	-	4 00	25 00	0 14	-	-
Harvard . . . . .	R. E. Bull . . . . .	1 00	1 40	3 00	23 00	-	0 17	-
Harwich . . . . .	Wm. A. Jones . . . . .	1 00	-	4 00	-	0 25	-	-
Hingham-Cohasset . . . . .	W. Roxbury Trap Rock Co. . . . .	1 40	-	5 00	25 00	0 16	-	-
Hinsdale . . . . .	Joseph McCormick . . . . .	0 98	1 20	5 00	25 00	-	0 155	-
Holbrook . . . . .	Powers Bros. . . . .	1 20	-	4 00	-	0 16	-	-
Lee . . . . .	C. I. Hosmer . . . . .	1 35	1 50	4 00	25 00	-	0 23	-
Leicester . . . . .	A. B. Allen . . . . .	1 75	-	5 00	-	-	0 20	-
Lenox-Lee . . . . .	L. C. Carchia . . . . .	1 50	1 45	4 00	23 00	-	-	11 00
Littleton-Westford . . . . .	Antonio Pallatto . . . . .	1 10	1 25	3 50	20 00	0 155	-	-
Lunenburg . . . . .	Jas. E. Watkins . . . . .	0 95	1 00	4 00	20 00	0 16	-	-
Mashpee . . . . .	Washburn & Sheridan . . . . .	0 90	1 15	5 00	-	-	-	-
Medfield . . . . .	A. D. Pasquale . . . . .	1 25	-	3 25	-	0 15	-	-
Medfield . . . . .	Reynolds Bros., Inc. . . . .	1 00	1 00	4 00	-	0 147	-	-
Middleborough . . . . .	Powers Bros. . . . .	0 85	0 90	3 00	20 00	0 15	-	-
Millis . . . . .	Octavius Menice . . . . .	1 25	-	3 00	25 00	-	0 17	-
Millis . . . . .	W. H. Hinman . . . . .	1 00	-	5 00	-	0 15	-	-
Nantucket . . . . .	M. F. Roach . . . . .	1 00	0 90	2 00	20 00	0 20	-	-
New Braintree . . . . .	John Laurenzi . . . . .	1 25	1 40	3 50	20 00	-	0 17	-
Norfolk . . . . .	Canedy Const. Co. . . . .	0 90	-	3 50	-	-	0 15	-
North Andover . . . . .	M. McDonough Co. . . . .	1 25	-	2 00	30 00	0 15	-	-
Northboro . . . . .	W. H. Hinman . . . . .	1 20	-	1 00	25 00	0 17	-	-
Northbridge . . . . .	Robert A. Doyle . . . . .	1 25	1 25	6 00	17 50	0 16	-	14 50
Northfield . . . . .	Kelleher Bros. . . . .	0 85	0 85	3 00	24 00	0 165	-	-
Norwell . . . . .	Otis R. Mann . . . . .	1 60	1 50	10 00	-	-	0 15	-
Orange . . . . .	R. H. Newell Co. . . . .	0 90	-	4 00	25 00	0 17	-	-
Paxton . . . . .	R. H. Newell Co. . . . .	1 00	1 25	3 50	25 00	0 17	-	-
Plainville-Wrentham . . . . .	B. Perini & Sons, Inc. . . . .	1 10	-	3 00	25 00	0 16	-	10 75
Randolph . . . . .	Powers Bros. . . . .	1 00	-	3 00	25 00	0 16	-	-
Raynham . . . . .	Angelo Susi & Co. . . . .	0 95	-	3 00	22 00	0 16	-	12 00
Reading . . . . .	M. McDonough Co. . . . .	1 25	-	5 00	-	0 15	-	-

CONTRACT PRICES DEC. 1, 1924 TO NOV. 30, 1925.

Broken Stone (Ton).	PIPE CULVERTS (LINEAL FOOT).							Fencing (Lin. Ft.).	Stone Filling (Cu. Yd.).	Bounds (Each).	Catch Basins (Each).	Reinforced Conc. Mas. (Cu. Yd.).	Gravel Borrow (Cu. Yd.).
	CLAY.			CORR. IRON.									
	10 In.	12 In.	15 In.	12 In.	14 In.	16 In.	18 In.						
\$3 25	-	\$0 75	-	\$1 50	-	\$1 85	-	\$0 70	-	\$4 00	\$80 00	\$30 00	\$1 75
3 75	-	1 50	-	-	-	-	-	1 00	-	5 00	100 00	-	1 70
2 75	-	1 50	-	-	-	-	-	-	-	-	80 00	-	1 50
-	-	-	-	1 30	-	-	-	-	\$3 00	-	-	25 00	1 00
-	-	-	-	-	-	-	\$2 60	0 80	-	-	85 00	35 00	1 25
2 80	-	1 50	-	-	-	-	-	-	-	-	80 00	-	1 25
3 75	-	-	-	2 50	-	-	-	-	-	-	90 00	-	1 25
-	-	-	-	2 25	-	-	-	0 75	-	-	-	-	-
-	-	-	-	-	-	-	-	0 75	-	-	100 00	-	-
4 00	-	-	-	2 00	-	2 75	3 00	-	2 50	-	-	35 00	1 40
3 00	-	1 75	-	2 25	-	-	-	-	-	-	-	30 00	1 25
-	\$1 50	-	-	-	-	-	-	0 70	-	-	80 00	35 00	1 25
2 90	-	1 50	-	-	-	-	-	0 50	-	-	-	-	1 40
3 50	-	-	-	-	-	-	-	-	2 50	-	-	40 00	1 00
4 00	1 50	1 50	-	2 00	-	-	-	1 00	-	6 00	100 00	35 00	1 40
3 35	1 25	-	-	-	-	-	-	1 00	-	-	100 00	-	1 30
-	-	-	-	-	-	-	-	0 65	-	-	70 00	-	-
3 00	-	1 60	-	-	-	-	-	0 80	2 00	-	100 00	-	2 00
-	-	1 50	\$1 75	-	-	-	-	0 65	-	6 00	85 00	34 00	1 40
4 40	-	-	-	-	-	-	3 50	0 65	2 50	6 00	-	30 00	1 50
3 00	-	2 00	-	-	-	-	-	1 00	3 00	5 00	-	36 00	1 25
2 35	-	2 00	-	-	-	-	-	1 00	-	-	75 00	-	1 50
4 00	1 40	1 50	1 80	-	-	-	-	0 70	-	6 00	80 00	30 00	1 40
2 65	1 25	-	-	-	-	-	-	0 50	2 75	-	-	25 00	1 30
2 70	1 00	1 10	-	-	-	-	-	-	-	-	75 00	-	1 15
3 10	1 25	2 50	-	-	-	-	-	0 70	2 90	-	90 00	30 00	1 25
3 00	-	1 20	1 30	-	-	-	-	0 75	-	-	75 00	-	1 35
2 75	-	-	-	-	-	2 50	-	0 80	-	-	80 00	30 00	1 50
2 75	-	-	-	2 25	-	-	-	0 75	-	-	70 00	-	1 35
3 75	-	1 75	-	3 00	-	-	-	-	3 60	-	-	40 00	1 20
3 60	-	1 75	2 00	-	-	-	-	0 70	-	-	100 00	37 00	1 25
3 30	1 50	-	-	-	-	-	-	0 75	2 75	-	85 00	37 00	1 10
3 00	-	-	-	-	-	-	-	0 80	-	-	-	-	1 25
3 00	1 75	2 00	-	-	-	-	-	-	2 50	-	90 00	-	1 10
-	-	1 60	-	1 75	-	-	2 25	-	2 75	-	-	35 00	1 30
-	-	1 60	-	-	-	-	-	-	-	-	100 00	40 00	1 60
3 25	1 40	1 50	-	-	-	-	-	0 75	-	-	80 00	25 00	0 95
2 90	-	2 00	3 00	-	-	-	-	1 00	-	-	75 00	-	1 25
-	-	-	-	2 25	-	-	-	0 70	-	-	-	-	



CONTRACT PRICES DEC. 1, 1924 TO NOV. 30, 1925 — *Concluded.*

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Mas. Conc. (Cu. Yd.).	BIT. SUR- FACING.		Conc. Surf. (Cu. Yd.).
		Earth (Cu. Yd.).	Borrow (Cu. Yd.).	Ledge (Cu. Yd.).		Asphalt (Gals.).	Tar (Gals.).	
Rehoboth and Dighton	F. L. McNeil	\$1 30	-	\$3 00	\$18 00	\$0 15	-	-
Revere-Saugus	Luke S. White Inc.	-	-	15 00	24 00	-	-	-
Revere-Saugus	M. McDonough Co.	-	\$0 90	-	-	-	-	-
Rockport	Welch & Moynihan	1 50	1 50	6 00	30 00	0 16	-	-
Sandwich	S. W. Lawrence	0 80	0 80	4 00	25 00	-	-	-
Sandwich	Washburn & Sheridan	1 00	1 00	-	-	-	-	-
Savoy	D. S. McGrath, Inc.	1 00	-	3 00	35 00	-	-	-
Seekonk	Joseph McCormick	1 00	1 00	3 00	25 00	0 12	-	-
Seekonk-Rehoboth-Swansea	C. A. Haggerty	1 00	1 00	5 00	25 00	0 16	-	\$11 00
Somerset	Joseph McCormick	1 55	1 25	3 00	25 00	0 14	-	10 90
Somerset-Swansea	B. Perini & Sons, Inc.	1 40	1 35	5 00	25 00	0 16	-	-
Southampton-Easthampton	Willard C. Tannatt, Jr.	1 00	1 10	6 25	20 00	0 165	-	-
Southborough	John Laurenzi	0 80	-	3 00	20 00	0 15	-	-
Stockbridge	Kelleher Bros.	1 40	1 00	3 00	30 00	0 18	-	-
Stoughton	Powers Bros.	1 20	0 90	4 00	-	0 16	-	-
Stoughton-Canton	Carlo Bianchi & Co., Inc.	1 10	1 10	3 00	25 00	0 16	-	11 00
Sturbridge	Lane Const. Corp.	1 10	1 10	1 10	25 00	0 15	-	-
Sudbury-Wayland	Robert A. Doyle	-	-	-	-	-	-	-
Sutton-Uxbridge	R. H. Newell Co.	0 85	0 85	3 00	20 00	0 145	-	-
Swampscott	J. W. Sheehan	1 00	-	4 00	25 00	-	-	12 00
Taunton	Powers Bros.	0 90	1 00	3 00	20 00	0 16	-	11 50
Taunton-Berkley	Carlo Bianchi & Co., Inc.	1 20	0 95	3 50	25 00	0 16	-	11 00
Tolland-Sandisfield	Carl B. Lindholm	1 00	0 90	3 00	30 00	-	-	-
Walpole	Washburn & Sheridan	1 35	-	5 00	-	0 16	-	-
Wareham	D'Onfro Bros., Inc.	1 00	-	3 00	20 00	0 14	-	-
Wayland	Middlesex Const. Co.	1 25	1 10	3 00	-	0 145	-	-
Webster	H. & J. P. Green	1 10	1 10	4 00	25 00	-	\$0 17	-
Westborough	E. L. Gobeille, Inc.	1 00	-	3 00	25 00	0 155	-	-
West Boylston	C. E. Horne	1 40	1 40	5 00	25 00	0 165	-	-
West Bridgewater	M. F. Roach	1 00	1 25	5 00	20 00	-	0 14	-
West Springfield	Adams & Ruxton Const. Co.	0 85	-	2 50	-	0 15	-	-
Weston	Hoyt Const. Co.	1 00	0 95	5 00	18 00	0 16	-	-
West Stockbridge	Middlesex Const. Co.	1 35	-	4 00	25 00	0 145	-	-
Whitman	Kelleher Bros.	1 40	1 00	3 00	30 00	0 18	-	-
Williamsburg	Powers Bros.	1 25	-	6 00	20 00	0 17	-	-
Winchendon	Bianchi & Way	1 00	-	6 00	20 00	0 16	-	-
Wrentham	R. E. Bull	0 90	-	2 00	29 00	0 165	-	-
	T. J. Quinn	0 84	0 85	2 50	25 00	0 14	-	-

CONTRACT PRICES DEC. 1, 1924 TO NOV. 30, 1925 — *Concluded.*

Broken Stone (ton).	PIPE CULVERTS (LINEAL FOOT).							Fencing (Lin. Ft.).	Stone Filling (Cu. Yd.).	Bounds (each).	Catch Basins (Each).	Reinforced Conc. Mas. (Cu. Yd.).	Gravel Borrow (Cu. Yd.).
	CLAY.			CORR. IRON.									
	10 In.	12 In.	15 In.	12 In.	14 In.	16 In.	18 In.						
\$2 85	-	-	-	\$2 00	-	-	-	\$1 25	\$2 00	-	-	-	\$1 85
-	-	-	-	-	-	-	-	2 00	-	-	-	\$45 00	2 00
-	-	-	-	-	-	-	-	-	-	\$10 00	-	-	-
2 50	-	\$2 25	-	-	-	-	-	-	-	-	\$90 00	-	2 75
-	-	1 75	\$2 00	-	-	-	-	0 70	-	-	-	-	1 25
2 50	-	-	-	-	-	-	-	-	-	-	-	-	1 25
-	-	-	-	2 70	-	\$3 40	\$3 90	-	2 70	-	-	40 00	-
3 38	\$1 85	1 85	-	2 25	\$2 25	-	3 00	0 75	2 70	-	100 00	-	1 00
3 75	1 75	1 75	-	-	-	-	-	0 70	-	5 00	100 00	40 00	1 25
4 45	1 85	1 85	2 05	-	-	-	3 20	0 75	-	5 00	100 00	35 00	1 40
4 25	-	-	-	-	-	-	-	0 75	-	5 00	80 00	34 75	1 50
3 00	-	1 40	1 80	1 75	-	3 00	-	0 70	3 00	2 75	100 00	25 00	1 15
3 40	-	-	-	2 00	-	-	-	-	2 50	-	-	40 00	1 10
3 20	-	-	-	2 25	-	-	3 00	0 75	2 90	-	-	40 00	1 60
2 85	1 40	1 50	-	-	-	-	-	0 70	2 90	-	80 00	-	1 50
3 00	1 75	1 75	-	-	-	-	-	0 75	-	6 00	90 00	35 00	1 10
3 90	1 40	1 50	1 75	-	-	-	-	0 65	2 25	5 00	80 00	30 00	1 10
-	-	-	-	-	-	-	-	-	-	-	-	25 00	2 00
3 25	-	-	-	2 00	-	-	-	0 70	-	-	-	35 00	0 85
-	-	-	-	-	-	-	-	0 95	-	-	75 00	-	1 20
3 50	1 40	1 50	1 60	-	-	-	-	0 60	-	5 00	70 00	24 00	1 20
4 00	-	1 75	-	-	-	-	-	0 75	-	6 00	90 00	35 00	0 95
-	-	-	-	-	-	-	-	0 70	-	6 00	-	40 00	1 25
2 90	1 50	-	-	-	-	-	-	-	-	-	90 00	-	1 40
3 75	-	1 50	-	-	-	-	-	0 65	-	5 00	80 00	30 00	-
2 85	1 20	-	-	-	-	-	-	0 70	-	-	100 00	22 00	1 30
3 90	-	-	-	2 00	-	-	2 50	-	2 60	-	-	-	1 25
3 65	-	-	-	1 75	-	-	2 50	-	2 50	-	-	-	1 10
3 70	-	-	-	2 25	-	-	-	-	-	-	85 00	-	1 40
2 75	-	-	-	-	-	2 50	-	0 70	-	-	-	30 00	1 35
2 30	1 40	-	-	-	-	-	-	-	3 70	-	85 00	-	1 65
2 00	-	1 75	2 25	-	-	-	-	0 65	2 50	-	100 00	26 00	1 40
2 75	-	1 30	1 50	-	-	-	-	0 75	-	-	80 00	-	1 30
3 30	-	-	-	-	-	-	3 00	0 75	2 50	-	-	40 00	1 60
3 60	0 60	0 75	1 00	-	-	-	-	-	-	4 00	100 00	-	1 75
3 60	-	-	-	-	-	-	-	0 75	2 60	5 00	-	32 00	1 80
3 70	-	1 45	-	1 95	-	-	-	-	2 85	-	80 00	29 00	1 10
2 95	-	1 50	2 00	-	-	-	-	0 65	2 48	5 00	88 00	-	1 35



## REGISTRY OF MOTOR VEHICLES.

The work of the Registry of Motor Vehicles during the past year was in excess of that of the previous year, both in regard to the number of registrations of motor vehicles and licenses to operate, as well as in the additional activities of the Registrar in safeguarding the motorists and pedestrians on the highways. The following tabulation gives the outstanding figures of the work of the Registry for the year:

Registrations and number plates issued . . . . .	774,671
Licenses to operate issued . . . . .	698,378
Examinations of applicants for licenses . . . . .	155,200
Cash receipts . . . . .	\$9,267,654
Licenses and registrations revoked and suspended . . . . .	16,249
Licenses revoked for driving under influence of liquor . . . . .	4,654
Hearings for reinstatement of licenses . . . . .	5,091
Reports on investigations and examinations . . . . .	8,872
Headlight violations . . . . .	51,629
Offenders prosecuted in courts . . . . .	643
Miscellaneous complaints filed . . . . .	9,511
Accident report letters received . . . . .	32,150

### MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS.

The number of deaths caused by motor vehicles in 1925 was 755, a far greater number than that in any previous year in Massachusetts. The number of persons killed and injured in motor vehicle accidents in 1924 and 1925 were as follows:—

#### MOTOR VEHICLE ACCIDENTS TO PERSONS.

	PERSONS 1924.	KILLED. 1925.	PERSONS 1924.	INJURED. 1925.
Pedestrians by autos . . . . .	440	432	11,057	13,645
Pedestrians by motor cycles . . . . .	1	6	16	23
Pedestrians near street cars . . . . .	9	17	27	25
Occupants of autos . . . . .	212	239	7,614	10,090
Occupants of motor cycles . . . . .	26	40	274	564
Bicycle riders . . . . .	10	10	339	872
Occupants of carriages, etc. . . . .	2	3	128	312
Coasters . . . . .	9	8	124	205
Totals . . . . .	709	755	19,579	25,736

#### CHILDREN KILLED. CHILDREN INJURED.

	1924.	1925.	1924.	1925.
Boys . . . . .	173	175	3,834	4,713
Girls . . . . .	87	58	1,714	1,886
Totals . . . . .	260	233	5,548	6,599

#### NUMBER OF COLLISIONS.

	1924.	1925.
Autos v. pedestrians . . . . .	11,190	13,300
Autos v. autos . . . . .	11,542	13,099
Autos v. carriages, etc. . . . .	230	427
Autos v. bicycles . . . . .	356	895
Autos v. trolley cars . . . . .	362	384
Autos v. poles, trees, etc. . . . .	790	1,071
Autos v. trains . . . . .	49	53
Autos v. motor cycles . . . . .	293	541
Autos v. sleds . . . . .	96	184
Autos v. pedestrians . . . . .	16	22
Totals . . . . .	24,924	29,976

P.D. 54.		45
	1924.	1925.
In the daytime	18,228	22,029
After dark	6,696	7,947
Totals	24,924	29,976

ACCIDENT REPORT LETTERS.

In accordance with the provisions of section 26, chapter 90, General Laws, every operator of a motor vehicle which is in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received during 1925 was 32,150, as compared with 24,499 received in 1924.

COMPARATIVE STATEMENT SHOWING RATIO OF ACCIDENTS TO YEARLY REGISTRATIONS, SUSPENSIONS, ETC.

YEAR.	Auto- mobiles Regis- tered.	Motor- cycles Regis- tered.	Total Regis- tration.	Number of Persons Killed.	Ratio of Deaths to Regis- trations.	Number of Persons Injured.	Ratio of Injuries to Regis- trations.	Suspen- sions and Revoca- tions.	Driving under Influence of Liquor.
1908	18,066	1,922	19,988	13	.00065	486	.02431	56	7
1909	23,971	2,394	26,365	54	.00205	989	.03751	200	23
1910	31,360	3,358	34,718	77	.00222	963	.02774	283	22
1911	38,907	3,658	42,565	110	.00258	1,248	.02932	360	14
1912	50,132	5,034	55,166	142	.00257	1,962	.03557	546	56
1913	62,660	7,127	69,787	188	.00269	2,923	.04188	608	87
1914	77,246	8,161	85,407	229	.00268	4,010	.04695	858	131
1915	102,633	9,520	112,153	294	.00262	6,197	.05525	1,153	202
1916	136,809	10,713	147,522	315	.00214	9,131	.06190	1,396	320
1917	174,274	11,065	185,339	438	.00236	7,282	.03929	1,831	485
1918	193,497	12,862	206,359	499	.00242	8,598	.04166	2,343	553
1919	247,183	13,698	260,881	582	.00223	16,287	.06243	2,156	554
1920	304,631	15,143	319,774	481	.00150	21,182	.06624	2,944	888
1921	360,731	12,058	372,790	544	.00145	11,487	.03081	4,899	1,508
1922	449,838	11,675	461,513	522	.00113	15,277	.03310	8,369	2,460
1923	566,150	11,733	577,883	578	.00100	16,217	.02804	11,613	3,333
1924	672,315	10,778	683,093	709	.00103	19,579	.02866	14,154	4,395
1925	764,338	10,333	774,671	755	.00097	25,736	.03322	16,249	4,654

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS.

Investigations and examinations were made under the direction of the Chief Inspector, with the assistance of one hundred eleven inspectors; relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The following tabulation presents the summary of the work of the inspectors for the years 1924 and 1925: —

	Classification of Reports.	1924.	1925.
Accidents, fatal		688	716
Accidents, non-fatal		1,264	1,304
Accidents, brief reports		752	925
General reputation		1,204	1,384
Miscellaneous		4,104	4,543
Totals		8,012	8,872
Complaints filed		12,279	8,346
Garages inspected		599	1,165
Headlight violations reported		32,116	51,629
Prosecutions conducted		647	643
Fines imposed		\$22,135	\$30,124

	ANALYSIS OF COURT ABSTRACTS RECEIVED.	1924.	1925.
Number of courts forwarding abstracts		95	95
Number of abstracts received		36,512	32,382



*Offences.*

(Analysis of guilty cases, not including appeals.)

Endangering lives . . . . .	1,295	1,462
Intoxicated . . . . .	3,957	3,515
Manslaughter . . . . .	4	5
Not stopping after causing injury . . . . .	545	481
Operating after revocation of registration certificate . . . . .	10	4
Operating after suspension or revocation of license . . . . .	336	316
Racing . . . . .	20	5
Reckless . . . . .	328	184
Using auto without authority . . . . .	677	1,013
Overspeeding . . . . .	11,343	10,239
Brakes not as required by law . . . . .	293	313
Improper lights . . . . .	301	96
Lenses not approved . . . . .	253	151
No rear light . . . . .	417	189
No reflector . . . . .	238	104
Not displaying lights . . . . .	110	0
Unlighted lamps . . . . .	945	1,016
Larceny . . . . .	213	236
Improper display or no registration number . . . . .	681	549
No signal . . . . .	2,978	1,041
Operating within 8 feet of street car . . . . .	514	412
Refusing to stop on signal . . . . .	633	565
Unregistered vehicle . . . . .	558	437
Violation of metropolitan park rules . . . . .	657	325
Without license . . . . .	4,663	4,425
Without registration certificate . . . . .	1,984	1,862
Miscellaneous . . . . .	2,559	3,437

## REVOCATIONS AND SUSPENSIONS.

	1924.	1925.
Licenses suspended . . . . .	5,207	5,772
Licenses revoked . . . . .	1,813	2,612
Rights suspended . . . . .	2,108	2,628
Registration certificates suspended . . . . .	16	19
Registration certificates revoked . . . . .	2,581	3,092
Registration certificates and licenses suspended . . . . .	68	79
Registration certificates and licenses revoked . . . . .	2,179	1,865
Registration certificates revoked and rights suspended . . . . .	164	161
Rights to have cars operated in Massachusetts suspended . . . . .	18	21

Totals . . . . .	14,154	16,249
Resulting from investigations . . . . .	7,418	8,331
Resulting from court convictions . . . . .	6,199	7,032
Resulting from police complaints . . . . .	318	592
Resulting from judges' complaints . . . . .	52	69
Resulting from constabulary complaints . . . . .	167	225
Totals . . . . .	14,154	16,249

*Character of Offences.*

Reckless and endangering . . . . .	1,169	1,335
Liquor . . . . .	3,547	3,714
Going away . . . . .	341	359
Without authority . . . . .	325	612
Racing . . . . .	10	2
Improper person . . . . .	2,488	3,211
Improper person, liquor . . . . .	848	940
Improper operation . . . . .	2,521	2,948

P.D. 54.		47
Two speeds . . . . .	425	368
Three speeds . . . . .	27	28
Improper equipment, miscellaneous . . . . .	232	188
Improper equipment, lights . . . . .	560	526
Improper equipment, brakes . . . . .	818	1,197
Deaths . . . . .	654	697
Other offences . . . . .	189	124
Totals . . . . .	14,154	16,249
Hearings . . . . .	4,366	5,091
Court recommendations adopted: —		
Liquor . . . . .	80	58
Reckless and endangering . . . . .	37	30
Going away . . . . .	11	9
Without authority . . . . .	0	1
Totals . . . . .	128	98
Persons whose licenses were suspended or revoked and who had to pass an examination in order to have them returned .	1,695	2,316

EXAMINATIONS FOR LICENSES.

Examinations of applicants for licenses to operate motor vehicles were held at numerous points in the State, and the tabulation below lists the several classes of persons examined and the number of those who were found unfit: —

	1924.	1925.
Total examinations . . . . .	161,284	155,200
Operators examined . . . . .	150,068	113,498
Operators unfit . . . . .	32,293	26,317
Removal of restriction, examined . . . . .	10,764	13,824
Removal of restriction, unfit . . . . .	1,041	1,267
"Competency", passed . . . . .	155	266
"Competency", unfit . . . . .	20	28

HEADLIGHTING.

Four complete headlamps were approved by the Registrar during the year in accordance with the provisions of section 7, chapter 90, General Laws as amended. Many other headlamps and devices in various stages of development, as well as many drawings and blue prints, were submitted for consisderation; also, many lamps were given actual road tests. The manufacturers or applicants were advised of the requirements of the law regarding approval of headlamps. The practice of the Registry relative to approval or disapproval of headlamps has been not to give approval prior to favorable action by the Eastern Conference of Motor Vehicle Administrators.

Three important steps in the control and development of satisfactory head-lamps have been taken by the Registrar. On May 28, 1925, the announcement was made that subsequent to that date no devices other than complete headlamps would be given favorable consideration, because the design and construction of other parts of the headlamp, as well as the lens and reflector, have a bearing on the results obtained. On July 21, 1925, a maximum permissible beam candle-power was fixed at 50,000 candle-power, because experience has justified the conclusion that under modern traffic conditions the specified limit is ample to give a safe driving light.

On Nov. 18, 1925, a bulletin was issued, incorporating suggestions relative to headlamp design and construction, to assist in the improvement of headlamps to indicate points which practice has shown to be important in producing satisfactory lamps.

During the year inspectors of the Registry have reported approximately 75,000 violations of the laws relating to headlights and brakes, compared with approxi-



mately 32,000 for 1924. From March, 1925, to the close of the year, 51,569 cars were tagged for defective equipment or adjustment. The balance of the reports covered the period prior to March and also included complaints of other violations of the law.

REAR LAMPS.

Four rear lamps, all in combination with stop signals, were approved by the Registrar during the year.

BRAKES.

A great deal of work has been done by the inspectors in enforcing the law relative to brakes on automobiles. Owners are required to have defective brakes remedied, and subsequent examinations to determine whether defects have been corrected were made at branch offices of the Registry during specified hours and at no expense to car owners. In order to facilitate brake inspection and as a convenience for the public, about 500 applicants have been examined and approved as competent to adjust and test brakes, and the Registry accepts their certification that defective braking equipment has been rectified. In some cases of serious defects in brake equipment, the registration has been immediately revoked.

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS.

Four meetings of the Eastern Conference of Motor Vehicle Administrators were held during the year: in January, April, July and October. The places of meeting were respectively: Harrisburg, Pennsylvania; Richmond, Virginia; Providence, Rhode Island; and Hartford, Connecticut.

These meetings were marked by helpful interchanges of ideas and discussions on the motor vehicle laws and their administration. Questions of motor vehicle equipment and operation, examining and licensing of operators, traffic signal colors, safety, brake testing and other matters were considered.

AIRCRAFT REGISTRATIONS.

(Chapter 90, General Laws, as amended by chapter 534, Acts of 1922 and chapter 189, Acts of 1925.)

During the year 12 applicants for pilot's licenses were examined, and 20 aircraft were inspected as to their fitness for registration. Other work included investigations of two fatal accidents, three non-fatal accidents and eighteen miscellaneous cases, including complaints and violations of the laws regulating the operation of aircraft. During the year three persons were killed and seven persons injured by aircraft accidents.

The following comparative table shows the record relating to aircraft for the years 1924 and 1925: —

	1924.	1925.
Pilots' licenses issued . . . . .	17	25
Airplanes registered . . . . .	12	23
Pilots' license fees received . . . . .	\$135	\$205
Airplane registration fees received . . . . .	\$180	\$345
Pilots' licenses suspended or revoked . . . . .	2	2
Right to fly suspended or revoked . . . . .	1	1
Pilots' licenses reinstated . . . . .	1	1
Names placed on Black List . . . . .	3	4

USED CAR SECTION.  
(Motor Vehicle Identification.)

This section receives reports of cars stolen during the year, not only in this State but in other states. Approximately 19,790 such reports were received in 1925, a considerable increase over 1924, due largely to the greater number of states and insurance companies which reported such cases, and many cars were recovered both in and outside of the State as the result of information furnished by this office.

Approximately 2,200 cars were improperly registered, giving incorrect engine or makers' numbers, or both, and investigations were made by this section to

P.D. 54.

ascertain the correct numbers. If the numbers were missing from the car, certificates were issued to owners authorizing such numbers to be replaced and engine numbers assigned by this office to be stamped upon the engines.

The following figures show the work of the Used Car Section:

Dealers:	1924.	1925.
First class dealers reporting to this office . . . . .	1,059	1,279
Second and third class dealers reporting . . . . .	570	624

Totals . . . . .	1,629	1,903
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Reports:

Approximate number of dealers' reports of receipts and sales received in 1925 . . . . .	240,000
Approximate number of individuals' notices of intended sale received in 1925 . . . . .	110,000

Motor Vehicles stolen:

	1924.	1925.
Number of stolen motor vehicles reported to this office . . . . .	9,500	19,790
Number of cars stolen in Massachusetts . . . . .	2,600	7,790
Number of cars recovered through information furnished by this office . . . . .	350	443
Number of cars stolen in Boston . . . . .	785	5,490
Number of cars stolen in Boston, recovered . . . . .	425	4,881
Number of cars stolen in Boston, not recovered . . . . .	360	609

Engine and serial numbers:

Engine numbers assigned to cars . . . . .	102	141
Letters authorizing replacement of engine numbers . . . . .	209	302
Letters authorizing replacement of serial numbers . . . . .	43	52
Certificates issued authorizing replacement of engine numbers . . . . .	-	373
Certificates issued authorizing replacement of serial numbers . . . . .	-	219

BRANCH OFFICES.

The branch offices of the Registry of Motor Vehicles established to assist in the distribution of automobile number plates and licenses to operate motor vehicles, as well as furnishing information relative to the motor vehicle laws, were used extensively during the year as indicated by the following tabulation, which gives approximately the number of applications handled at the central offices and at the several branch offices. It has been observed that although applications for renewals of licenses are mailed about a month before the date of expiration of the license, many persons called personally at the branch offices, instead of applying by mail.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations.	Examina- tions for Licenses.	License Renewals.	Miscel- laneous.	Total.
Boston:					
Counter . . . . .	279,000	-	149,000	20,000	448,000
Mail . . . . .	123,000	-	269,000	7,000	399,000
Examinations . . . . .	-	103,000	-	-	103,000
Pittsfield . . . . .	21,000	4,000	7,000	2,000	34,000
Springfield . . . . .	80,000	7,000	28,000	3,000	118,000
Worcester . . . . .	67,000	7,000	27,000	3,000	104,000
Lawrence . . . . .	30,000	5,000	16,000	3,000	54,000
Lowell . . . . .	23,000	3,000	12,000	2,000	40,000
Fall River . . . . .	24,000	3,000	13,000	2,000	42,000
New Bedford . . . . .	27,000	3,000	14,000	3,000	47,000
Lynn . . . . .	46,000	6,000	22,000	5,000	79,000
Quincy . . . . .	26,000	6,000	12,000	4,000	48,000
Brockton . . . . .	22,000	2,000	13,000	2,000	39,000
Hyannis . . . . .	5,000	2,000	2,000	2,000	11,000
Totals . . . . .	773,000	151,000	584,000	58,000	1,566,000



## REGISTRATIONS, LICENSES, FEES.

The registrations of motor vehicles and licenses operated in 1925 exceeded the figures for 1924, passenger car registrations being 14% greater and commercial vehicles 9% greater, while motor cycle registrations were less. The total number of applications handled increased about 12%, from 1,397,675 in 1924 to 1,572,998 in 1925.

## PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES.

	1905.	1910.	1915.	1920.	1924.	1925.
Passenger cars . . . . .	4,889	31,360	90,580	251,570	580,489	663,858
Commercial vehicles . . . . .	—	—	12,053	52,968	91,826	100,480
Motor cycles . . . . .	553	3,358	9,520	15,142	10,778	10,333
Totals . . . . .	5,442	34,718	112,153	319,680	683,093	774,671

The fees received for the year 1925, together with the number of vehicles registered in each classification and the number of licenses granted, etc., are shown in the following table: —

## ANALYSIS OF RECEIPTS.

## Certificates of registration:

Passenger cars . . . . .	663,858	\$5,794,223	50
Commercial cars . . . . .	100,480	1,484,887	00
Additional truck fees . . . . .	4,723	67,841	00
Trailers . . . . .	702	14,795	00
Motor cycles . . . . .	10,333	47,069	50
Motor cycle dealers . . . . .	40	400	00
Manufacturers or dealers . . . . .	2,011	59,700	00
Additional cars . . . . .	6,589	41,629	00
Repairers . . . . .	163	4,000	00
Repairers' additional cars . . . . .	16	320	00
Licenses to operate:			
Original licenses . . . . .	114,445 at \$2	00	228,890 00
Renewal licenses . . . . .	583,933 at 2	00	1,167,866 00
Examinations . . . . .	150,141 at 2	00	300,282 00
Copies of certificates and licenses furnished . . . . .	36,713 at 1	00	36,713 00
Duplicate number plates furnished . . . . .	13,288 at 1	00	13,288 00
Lens approval applications . . . . .	8 at 50	00	400 00
Miscellaneous receipts, auto lists, process fees, etc. . . . .			6,350 00

Total . . . . .	\$9,268,654	00
Motor vehicle fees rebated (deducted) . . . . .	108,330	12

Net fees . . . . .	\$9,160,323	88
Court fines received by the Treasurer and Receiver General . . . . .	575,246	90

Total receipts credited motor vehicle fees account, 1925 . . . \$9,735,570 78

The cost of running the Registry of Motor Vehicles for the year 1925 was \$921,513.81, which was 10 per cent of the net fees collected, as compared with 10.5 per cent for the year 1924 and 10.23 per cent for the year 1923. This cost, deducted from the receipts for the year, left the sum of \$8,814,056.97 available for legislative appropriation for highway work.

## ANALYSIS OF EXPENDITURES FOR 1925.

The following table gives an analysis of expenditures by the Registry for the year: —

## Personal Services:

Regular Payroll . . . . .	\$503,431	76
Overtime . . . . .	8,284	68
		<hr/>
		\$511,716 44

Supplies:

Books, maps, etc.	\$680	24	
Typewriter supplies	1,463	46	
Adding machine supplies	31	58	
Other supplies	4,495	22	
Stationery	22,077	17	
Typewriter repairs	323	56	
Other repairs	305	17	
			<hr/>
			\$29,376 40

Equipment:

Typewriter machines	\$4,882	61	
Other machines	2,697	87	
			<hr/>
			7,580 48

Furniture:

Desks	\$2,643	06	
Filing cabinets	12,982	08	
Chairs	1,035	75	
Tables	73	70	
Miscellaneous	285	19	
Electric fans	145	61	
			<hr/>
			17,165 39

Travel:

Employees	\$30,177	74	
Automobiles (owned by employees)	69,406	29	
Other traveling expenses	3,128	88	
			<hr/>
			102,712 91

Other services and expenses:

Expressage	\$1,145	99	
Postage	50,340	20	
Printing	7,398	69	
Other reports	1,172	73	
Lithographing	1,191	86	
Telephone	4,440	49	
Premium on bonds of employees	291	20	
Rent	26,304	50	
Water and ice	1,171	80	
Cleaning	948	00	
Towels	676	20	
Soap	91	75	
Erection of counter	80	78	
Dictagraph system	5,717	05	
			<hr/>
			100,971 24

Special services (labor and police)

Other expenses as listed below:

Badges for inspectors	80	00	
Clocks and regulating	211	97	
Commissions as justices of the peace	120	00	
Headlight	249	97	
Number plates	123,420	12	
Sundries	167	58	
			<hr/>
			125,730 30

Branch Office Expenses:

Equipment:

Erection of counters	\$242	92	
Lettering and signs on windows and doors	148	25	
Office equipment	1,571	77	
Adding machines	162	92	
			<hr/>
			2,125 86



## Travel:

Traveling expenses . . . . .	\$412 34
Express service to bank . . . . .	373 30

\$785 64

## Other services and expenses:

Miscellaneous . . . . .	\$496 91
Telephone . . . . .	3,017 20
Rent . . . . .	15,546 63
Water and ice . . . . .	276 36
Water cooler . . . . .	22 50
Cleaning and janitor service . . . . .	2,070 67
Towels . . . . .	232 55
Lighting . . . . .	553 23
Special services (labor and police) . . . . .	1,094 10
Commissions as justices of the peace . . . . .	39 00

23,349 15\$921,513 81

The total amount available for 1925 was \$957,352.57.

The following comparative statement for the years 1924 and 1925 shows very plainly the increase of work as occasioned by additional registrations and licenses, etc.: —

	1924.	1925.
Total registrations and number plates issued . . . . .	683,093	774,671
Passenger car registrations . . . . .	580,489	663,858
Highest number plate assigned . . . . .	482,780	547,559
Commercial car registrations . . . . .	91,826	100,480
Highest number plate assigned . . . . .	B84,926	B93,001
Number of additional truck fees . . . . .	—	4,723
Motor cycle registrations . . . . .	10,778	10,333
Highest number plate assigned . . . . .	10,087	10,410
Trailer registrations . . . . .	672	702
Motor cycle dealers' registrations . . . . .	48	40
Manufacturers' or dealers' registrations . . . . .	1,961	2,011
Additional cars (dealers) . . . . .	6,094	6,589
Repairers . . . . .	113	163
Additional cars (repairers) . . . . .	12	16
Licenses to operate:		
Original . . . . .	120,259	114,445
Renewal . . . . .	500,180	583,933
Total licenses . . . . .	620,439	698,378
Examinations for licenses . . . . .	159,006	150,141
Copies of certificates and licenses furnished . . . . .	33,599	36,713
Duplicate number plates issued . . . . .	12,889	13,288
Miscellaneous applications . . . . .	8	8
Total number of applications handled . . . . .	1,397,675	1,572,998
Total fees . . . . .	\$8,122,166 00	\$9,268,654 00
Motor vehicle fees rebated (deducted) . . . . .	98,000 25	108,330 12
Net fees . . . . .	\$8,024,165 75	\$9,160,323 88
Court fines received by the Treasurer and Receiver General . . . . .	521,060 29	575,246 90
Total receipts credited motor vehicle fees account . . . . .	\$8,545,226 04	\$9,735,570 78
Personal services . . . . .	462,678 25	511,716 44
Expenses . . . . .	380,127 20	409,797 37
Total expenses . . . . .	\$842,805 45	\$921,513 81

## DIVISION OF WATERWAYS AND PUBLIC LANDS.

## BOSTON HARBOR.

## THE COMMONWEALTH FLATS AT SOUTH BOSTON.

*Commonwealth Pier No. 5.*

The dredging of the west dock to a depth of 40 feet below mean low water, under contract of Oct. 20, 1924, with the Bay State Dredging and Contracting Company, was completed Jan. 29, 1925, at a contract cost of \$14,037.36.

On Dec. 4, 1924, a contract was made with the Rendle-Kenney Dredging and Contracting Company to dredge the east dock to the same depth. The contract prices for this work were: for dredging and disposing of the dredged material 29.5 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$10 per cubic yard. This work was completed Apr. 11, 1925, at a contract price of \$8,744.01.

A survey made along the front of the sea walls around the pier and on Northern Avenue showed a settling of the riprap to such an extent that portions of the pile foundation were left exposed. On July 30, 1925, a contract was made with William R. Farrell to furnish and place about 1,600 tons of stone riprap at designated places along these walls. The contract prices for this work were: for furnishing and placing riprap in front of Commonwealth Pier No. 5 sea wall and that portion of Northern Avenue sea wall within the limits of Pier 5, \$7.83 per ton of riprap in place; for furnishing and placing riprap in front of Northern Avenue sea wall outside the limits of Pier 5, \$3.63 per ton of riprap in place. Under this contract 374 tons of riprap were placed in front of the Northern Avenue sea wall and 1,227 tons in front of the sea walls around Pier 5. The work was completed Sept. 30, 1925, at a contract cost of \$10,965.03.

The regulations of the United States Health Service require that all ships arriving from rat infected ports shall be held at least four feet from the pier to prevent the escape of rats. To insure continued compliance with the regulation a contract was made on Mar. 6, 1925, with the William L. Miller Company to furnish three floating fenders, each 40 feet long by 4 feet square, and to secure them to the pier. The contract price for furnishing and placing these fenders, including chains and fittings complete, was \$789 for each fender. The fenders were completed and secured in place on Apr. 1, 1925, at a contract cost of \$2,367.

Repairs and alterations to the north wall of the headhouse at its connection with the roof of the pier shed, and repairs to the roof of the headhouse, begun in 1924 under agreement with George F. DeLeskey and Son, were completed May 22, 1925, at a contract cost of \$2,583.25.

On July 30, 1925, a contract was made with L. B. Renfrew Gray to make repairs to the roof covering of the pier sheds and to some of the copper roof pans, to waterproof the wall on the north side of the headhouse and around the sash. Under this contract the plastered wall on the north side of the headhouse was protected by a coat of waterproofing, leaks in the tar and gravel roof were patched with tarred paper, mopped with roofing pitch and regravelled, loose copper flashing was renailed with copper nails and some of the Fenestra sash calked with waterproofing cement. The work was completed Oct. 27, 1925, at a contract cost of \$1,579.39.

A contract was made on Aug. 12, 1925, with Warren Bros. Company for laying a two-inch wearing surface of Warrenite Bitulithic on a part of the present driveway on the second floor of the west shed of the pier, and patching other areas of the floor surface. Under this contract the work of resurfacing 1,838 square yards of floor was completed Sept. 17, 1925, at a contract cost of \$5,020.93.

The building of an additional room on the second floor of the east shed for the use of the Registry of Motor Vehicles, under contract of Aug. 20, 1924, with the Casey and Darcy Company, was completed Jan. 27, 1925, at a contract cost of \$5,193.

During the year it became necessary to provide more space for the use of the Registry of Motor Vehicles. On Nov. 6, 1925, a contract was made with the



George W. Nicoll Company, Inc., to build an additional office on the second floor of the center shed, adjacent to the present offices of the Registry. The contract price for the work is the lump sum of \$8,400. This work is now in progress.

In accordance with the requirements of the Boston Board of Fire Underwriters 85 2½-gallon fire extinguishers of the non-freezing type and box containers have been purchased and placed at suitable locations throughout the pier. Also, additional sprinkler heads and piping have been installed, largely on account of the construction of additional rooms for offices.

The efficiency of the heating system of the pier has been improved by the installation of additional return piping and by substitution of thermostatic elements in place of floats in radiator traps.

On June 5, 1925, a permit was granted to the Federal Government to occupy two rooms at this pier until June 30, 1926, for the use of the Assistant Weighers and for storage purposes.

#### *Viaduct and Ramp.*

During the year waterproofing has been placed upon the roadways paved with granite blocks on the viaduct from Summer Street to Commonwealth Pier No. 5, and on a portion of the ramp connecting the viaduct with D Street. For the viaduct roadway a surface treatment of "Bermudez" asphalt was used, and for the ramp a tar treatment of "Tarvia A". After the application of the waterproofing the surface was covered with pea stone and sand. The drainage of these roadways was also improved by replacing twenty-one scuppers having two and one-half inch outlets with larger ones with six inch outlets. All bearings of expansion joints in the steel structure of the viaduct and ramp were cleaned and oiled. The greater part of the work was done by employees of the Department.

On Sept. 10, 1925, a contract was made with Steves Lacios Company for cleaning and painting all the metal work of the viaduct and ramp. The contract price for this work is \$8,400. Work was begun Oct. 2, 1925, but was suspended Nov. 9, 1925, on account of unfavorable weather.

Under an arrangement with the Boston Elevated Railway the overhead equipment of the street railway tracks on the viaduct and ramp, extending from Summer Street to the Commonwealth Piers, was removed, with the exception of twenty-nine trolley poles. For this material \$365.73 was received by the Commonwealth.

#### DEVELOPMENT OF LAND SOUTH OF SUMMER STREET.

The storehouses on D and E Streets, formerly known as the Army Stores, have been occupied as in 1924. Two sections of Storehouse No. 1 have been used by the Federal Government and the remaining five sections are under lease to the Terminal Wharf and Railroad Warehouse Company, now the Wiggin Terminals, Incorporated. Storehouse No. 2 is occupied by the United States Post Office Department and by the Division of Highways of the Department of Public Works.

On Mar. 12, 1925, an agreement, supplemental to the lease of July 1, 1921, was made with the Federal Government authorizing the continuance to June 30, 1928, of the use of sections A and G of Storehouse No. 1 by the Quartermaster's Department. By this agreement the United States released to the Commonwealth the railroad tracks from their location between the storehouses to their connection with the tracks of the New York, New Haven and Hartford Railroad Company near B Street, upon condition that the Commonwealth maintain these tracks in good repair during the term of the lease.

Minor repairs have been made at these storehouses during the year by employees of the Division. Water pipes have been replaced, some waterproofing has been done upon the roofs and around the skylights and repairs made to both roofs and skylights.

On account of the erection of a new warehouse on the easterly side of C Street near Cypher Street, the City of Boston raised and repaved this portion of C Street. As a result of this work the Commonwealth was required to raise its tracks crossing C Street near Cypher Street, and furnished and placed new creosoted ties under the tracks.

## THE COMMONWEALTH FLATS AT EAST BOSTON.

*Aircraft Landing Field.*

The aircraft landing field at East Boston and an area adjacent to it are leased to the Federal Government until June 30, 1926, with the privilege of renewal.

The balance of the appropriation under chapter 368 of the Acts of 1924 was used to complete the work begun last year. Cinders were placed in depressions on the field and the approach driveway, and ditches were dug to improve surface drainage.

This field is now being maintained and the improvements continued under appropriations made by the Federal Government. Of the four hangars built there, two are used by the United States Army and two by the Massachusetts National Guard.

*Dredging and Filling.*

No contract has been in force for dredging and filling at East Boston since the completion on Dec. 24, 1923, of the contract with the Atlantic, Gulf and Pacific Company. The westerly end of the Central Basin has, however, been used as a receiving basin for material dredged from various locations in the harbor by dredging companies employed chiefly upon private work. In this way 1,230,000 cubic yards of material have been deposited since Dec. 24, 1923, including 620,000 cubic yards placed during the year.

The Commonwealth has reclaimed at East Boston about 150 acres, a portion of which is included in the areas leased to the Federal Government for the aircraft landing field.

## COMMONWEALTH PIER No. 1, EAST BOSTON.

During the year the inner portion of the depressed track pit at this pier was replanked under an agreement with the William L. Miller Company at a cost of \$494.

Repairs to the roof covering of the pier shed and the covering of the whole roof with waterproofing liquid were completed in October by the Vitaplastic Roof Service Company at a cost of \$1,710.52.

The wooden fence on the property bordering Lewis Street has also been repaired.

## HOUGHS NECK SEA WALL, QUINCY.

Repairs to this sea wall were completed during the year. Parts of the concrete coping were replaced, masonry joints repointed and repairs made to the concrete backing where no back filling had been placed. The cost of the work was \$791.09.

## PIG ROCK, HULL.

Under authority of section 6 of Chapter 1 of the General Laws, the title of a tract of land 100 feet square at Pig Rock near the entrance to Weymouth Fore River in the town of Hull was conveyed Feb. 26, 1925, to the Federal Government for locating, constructing and maintaining thereon a light as an aid to navigation.

## POINT ALLERTON SEA WALL, HULL.

By chapter 315 of the Acts of 1925, the Division of Waterways and Public Lands is authorized to construct a breakwater or sea wall at Allerton in the town of Hull for the purpose of protecting said point from erosion by the sea. The act provides that no work shall be done until the town of Hull has assumed liability for damages, and the county of Plymouth and town of Hull has each contributed and paid into the State Treasury the sum of \$25,000, that the total cost of the project shall not exceed \$75,000, and that the act shall take effect upon its acceptance before Dec. 31, 1925, by vote of the County Commissioners and of the town of Hull, and the filing with the Division of certified copies of the votes.

On July 17, 1925, the town of Hull voted to accept this act and on July 21st executed an agreement assuming liability for damages. The act was accepted by the County Commissioners of Plymouth County by vote of June 2, 1925. Certified copies of these votes were filed with the Division.



A survey has been made of the shore and adjoining property between the easterly end of the concrete sea wall built in 1902 by the Commonwealth at Stony Beach, and the westerly end of the granite sea wall built at Point Allerton by the Federal Government between 1870 and 1874, and tentative plans have been prepared for construction of a concrete wall.

The matter of the title to property along the proposed site of the wall is now being investigated by the Department of the Attorney General.

#### STONY BEACH SEA WALL, HULL.

In May and June minor repairs were made to the sea wall extending along shore for a distance of about 1,500 feet westerly from Allerton. Portions of the granolithic top were replaced with new mortar and openings at construction joints were repointed. No work was done upon the concrete jetties which have been worn and broken by the action of the sea and ice. The total cost of the repairs made was \$478.58.

#### VICTORY PLANT, SQUANTUM.

In accordance with the provisions of chapter 23 of the Resolves of 1924, the Division under date of Jan. 13, 1925, made a special report to the legislature regarding its investigation as to the advisability of the acquisition by the Commonwealth from the Federal Government of the Victory Plant at Squantum. This report was printed as House No. 421 of 1925.

#### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR.

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation of \$50,000 was made during 1925 with the following condition: "provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations and individuals."

An appropriation of \$25,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Division during the year for surveys and improvements in the following localities: Connecticut River, Greenfield; Essex Canal, Ipswich; Lake Anthony, Oak Bluffs; Manchester Harbor, Manchester; Nobscusset Harbor, Dennis; Oak Bluffs water front protection; Quansett Harbor, Orleans; Smith's Cove, Gloucester; Wild Harbor, Falmouth.

Public hearings have been held, certain surveys and estimates of cost made, but no work has been done to carry out improvements petitioned for at Connecticut River, Greenfield; Essex Canal, Ipswich; Lake Anthony, Oak Bluffs; Manchester Harbor, Manchester; Nobscusset Harbor, Dennis; Smith's Cove, Gloucester; Wild Harbor, Falmouth.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, in previous reports of this Division, and in the tables in the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of the work done during the year 1925, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

## ANNISQUAM RIVER, GLOUCESTER.

The work of dredging an anchorage basin and removing a shoal in Annisquam River about 1,500 feet northwesterly of Blynman Bridge, under contract of Nov. 6, 1924, with the Bay State Dredging and Contracting Company, was completed Jan. 7, 1925, at a contract cost of \$11,088.42. A basin of approximately 1.2 acres was dredged to a depth of 6 feet at mean low water. Toward the cost of this work a contribution of \$3,000 was made by the city of Gloucester. Amount expended during the year, \$11,858.35. Total expenditure to Dec. 1, 1925, \$128,660.34.

## BEVERLY HARBOR.

Under authority of Chapter 12 of the Resolves of 1922, the Commonwealth paid \$50,000, as a contribution toward the cost of the improvement of Beverly Harbor under a project of the Federal Government including dredging and the removal of ledge. The work of dredging was completed Oct. 22, 1924. A contract has been made for the removal of ledge within the channel limits, but the work is not yet finished. About sixty per cent of the entire project was completed Nov. 30, 1925.

## COHASSET HARBOR.

Hearing was held Feb. 25, 1925, upon the petition of Henry B. Kimball, and others, for dredging.

On Oct. 9, 1925, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in Cohasset Harbor to a depth of 6 feet at mean low water. The contract prices for this work are: for dredging the areas and disposing of the dredged material, 49½ cents for each cubic yard, scow measurement; for removing and disposing of boulders, \$18 for each cubic yard. Work has not begun under this contract. Toward the cost of this dredging a contribution of \$2,000 has been made by the town of Cohasset, and of \$3,000 by individuals interested. Amount expended during the year, \$40.52. Total expenditure to Dec. 1, 1925, \$66,234.17.

## CONNECTICUT RIVER.

*Holyoke.* — Requests were received during the year for extension of the protective work begun in 1923 on the bank of Connecticut River in front of property of the Holyoke Canoe Club.

On Jan. 5, 1925, a contract was made with Daniel O'Connell's Sons for placing stone riprap on the westerly bank of Connecticut River northerly of Smith's Ferry in the city of Holyoke. The contract price for furnishing and placing riprap, grading bank, removing stumps and bushes and all incidental work was \$2.00 per ton of stone in place on the bank of the river. This work was completed on Jan. 9, 1925, at a contract price of \$1,836.00. Under this contract stone riprap was placed upon 746 linear feet of river bank to complete the protection of the entire waterfront of the Holyoke Canoe Club. Toward the cost of the work contributions amounting to \$976.29 were made by this Club. Amount expended during the year, \$1,877.57. Total expenditure to Dec. 1, 1925, \$9,253.27.

## COTUIT SHORE PROTECTION, BARNSTABLE.

On Dec. 2, 1924, a contract was made with Charles I. Hosmer for the construction of a timber bulkhead and spur jetties to protect a portion of the shore at the bluffs just outside Cotuit Harbor in the town of Barnstable. The contract prices for this work were: for furnishing materials and building the timber bulkhead, \$4.60 per linear foot of bulkhead complete in place; for furnishing materials and building the timber spur jetties, \$4.15 per linear foot of timber jetty complete in place; for excavating material from the bank adjacent to the bulkhead and placing the same as filling in back of the bulkhead, fifty cents per cubic yard of material in place. This work was completed Mar. 3, 1925, at a contract cost of \$8,190.90. Under this contract 1,033 feet of timber bulkhead were constructed, with 794 linear feet of timber jetties, and 288 cubic yards of filling were placed back of the bulkhead. Toward the cost of this work a contribution of \$6,000 was made by individuals interested. Amount expended during the year, \$8,810.04. Total expenditure to Dec. 1, 1925, \$68,416.69.



## FALMOUTH HEIGHTS SEA WALLS.

In February an inspection was made of the sea wall at the westerly end of the bluff at Falmouth Heights. One section of the wall was found partially overturned and in need of immediate repairs. The necessary work was done by the employment of local labor upon a day basis. The work comprised excavating back of the 200 feet of wall partially overturned, the realignment of this wall, the building of 13 concrete buttresses at broken joints in the wall and the construction of 11 timber spur jetties each 15 feet long. This work was completed Apr. 24, 1925, at a cost of \$2,445.08. Toward the cost of the work the town of Falmouth made a contribution of \$1,222.54. Amount expended during the year, \$2,448.95. Total expenditure to Dec. 1, 1925, \$53,858.08.

## GREEN HILL, HULL.

An inspection made in June of the sea wall at Gun Rock and Green Hill showed the necessity for repairs to that section of the wall northerly of Green Hill. On June 18, 1925, a contract was made with Frank H. Barry to repair and point up the part of the wall extending from the Hull-Cohasset boundary line to Gun Rock. The contract prices for this work were: for furnishing masons and equipment, including forms for concrete, \$1.15 per hour for each hour actually worked; for furnishing laborers and equipment 85 cents per hour for each hour actually worked; for furnishing Portland cement one dollar for each bag delivered on the work; for furnishing sand \$4.50 for each cubic yard delivered on the work. The repairs were completed Oct. 7, 1925, at a contract cost of \$3,305.23.

Under this contract 350 linear feet of concrete footing was constructed under the sea wall along the northwesterly face of Green Hill, and repairs were made to small sections east and south of this part of the wall. Some work was done also in repairing a few of the concrete jetties. Amount expended during the year, \$3,765.83. Total expenditure to Dec. 1, 1925, \$37,906.21.

## HERRING RIVER, WELLFLEET.

The work of dredging under contract of Oct. 3, 1923, with William E. Burke was completed May 29, 1925. A channel 5,500 feet long has been dredged from High Toss Bridge to the Railroad Bridge. By this dredging the water level at the Railroad Bridge has been lowered about  $2\frac{1}{2}$  feet, causing a lowering of the water level at the Highway Bridge and helping materially in draining the entire area between the railroad and the highway. Amount expended during the year, \$2,403.14. Total expenditure to Dec. 1, 1925, \$32,917.86.

## MANCHESTER HARBOR, MANCHESTER.

The work of dredging in Manchester Harbor under contract of July 2, 1924, with the Bay State Dredging and Contracting Company was completed Jan. 12, 1925. A channel has been dredged 8 feet deep at mean low water and at least 60 feet wide on the bottom from the 8-foot contour in the outer harbor to the railroad bridge. Amount expended during the year, \$2,503.93. Total expenditure to Dec. 1, 1925, \$135,926.28.

## MENAMSHA SEA WALL.

An inspection made in June of the sea wall easterly of the entrance channel at Menamsha showed the need for immediate repairs. Under an agreement with H. N. Hinckley and Son, 216 linear feet of concrete footing was built under the wall, 20 buttresses were constructed in front of the wall, 13 small piers placed back of two sections and about 40 linear feet at the top of the wall replaced.

On Nov. 19, 1925, a contract was made with William E. Burke for placing about 200 tons of stone chips and 400 tons of heavy riprap in front of this wall for further protection. The contract price for furnishing and placing this stone is \$9.89 for each ton of 2,000 pounds. Work has not yet begun under this contract.

Amount expended during the year, \$3,659.58. Total expenditure to Dec. 1, 1925, \$81,699.08.

## MITCHELLS RIVER, CHATHAM.

Hearing was held Feb. 25, 1925, upon a petition of Erastus T. Bearse, and others, for dredging a channel in Mitchell's River and the Mill Pond, Chatham.

On May 28, 1925, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel in Mitchell's River 5 feet deep at mean low water and 60 feet wide on the bottom, from the 5-foot contour in Stage Harbor to the 5-foot contour in the outer pond, a distance of about 3,500 feet, and for dredging a channel to the same depth and width through the bar between the two ponds, a distance of 450 feet. The contract prices for this work were: for dredging channels and disposing of the dredged material 33 cents for each cubic yard of material dredged and measured in scows, if taken to sea, or *in situ* if deposited on shore; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this work a contribution of \$6,000 was made by the town of Chatham. Work under this contract was completed Sept. 23, 1925, at a contract cost of \$21,476.40. Amount expended during the year, \$22,790.96. Total expenditure to Dec. 1, 1925, \$23,113.92.

## NAMEQUOIT RIVER AND PLEASANT BAY, ORLEANS.

The dredging in Namequoit River and Pleasant Bay under contract of June 5, 1924, with William E. Burke, was completed Feb. 6, 1925. Difficulties encountered by the contractor in the course of this dredging increased the estimated cost of the work. In order that all the dredging contemplated in the contract might be done, an additional contribution of \$500 was made by the town of Orleans toward the increased cost. Amount expended during the year, \$15,382.58. Total expenditure to Dec. 1, 1925, \$28,529.62.

## NANTUCKET HARBOR.

The work of dredging in Nantucket Harbor under contract of May 2, 1924, with Herbert T. Gerrish was completed May 6, 1925. Under this contract an area of approximately 4.3 acres was dredged to a depth of 4 feet at mean low water. Amount expended during the year, \$2,929.13. Total expenditure to Dec. 1, 1925, \$58,982.52.

## NEW BEDFORD STATE PIER.

Since the termination on Dec. 31, 1923, of the lease of Mar. 1, 1921, to the New Bedford Storage Warehouse Company, this pier has been operated by the Division. A revised schedule of rates adopted by the Division for use at this pier was approved by the Governor and Council and became effective on July 15th of this year.

During the year minor repairs have been made. A new track and hood have been built over the sliding doors of the main pier, casters placed upon the bottom of these doors and repairs made to the concrete chocks around the pier near low water. Arrangements have also been made for new waterproofing upon the immigration shed and for repairing the roofs of the steel and wooden sheds.

Two transportation companies occupy space at the northerly end of the immigration shed and in the south wing of the timber freight shed, respectively. All the remaining space is available for cargo.

This pier, built under authority of chapter 693 of the Acts of 1914, was completed in 1917, providing accommodations for a vessel 600 feet long with a draft of 25 feet, and has been equipped for serving large ocean-going craft.

A steel and concrete two-story building 300 feet long and 105 feet wide, provided with a freight elevator, has been built upon the pier. In extension of this building two one-story wooden sheds have been built, in addition to a wooden shed for use in admitting immigrants.

Additional dredging was done by the Commonwealth in 1922 in New Bedford Harbor to provide an adequate approach to this pier, and in 1924 the Federal Government completed the dredging of a channel 25 feet deep at mean low water into this harbor from deep water in Buzzards Bay.

Amount expended during the year for operation, \$6,176.58. Total expenditure to Dec. 1, 1925, for operation, \$30,790.18; for construction, \$494,133.33.



## OAK BLUFFS SEA WALLS.

Hearing was held Feb. 25, 1925, upon the petition of the Selectmen of Oak Bluffs for water front protection for the shore in the vicinity of the steamboat landing.

On June 11, 1925, a contract was made with the Guiney and Hanson Construction Company to build 1,785 linear feet of concrete sea wall and 14 timber jetties. The wall is to extend northerly and southerly from the steamboat wharf to protect the stretch of shore from an existing wall near the bathhouse to the end of a wall near the jetty at Lake Anthony. The contract prices for this work are: for furnishing materials and constructing the concrete wall and steps \$19.25 per cubic yard of concrete measured in the completed work; for furnishing materials and constructing the timber spur jetties \$8.50 for each linear foot measured in place; for excavating material from bank in back of wall and placing same as filling back of wall 75 cents for each cubic yard of material measured in place. Work under this contract is now in progress. Toward the cost of the work the town of Oak Bluffs has made a contribution of \$25,000.

In September the attention of the Division of Waterways and Public Lands was called by the Division of Highways to the erosion in progress at the southeasterly end of the sea wall at Sea View Avenue and to the danger of encroachment upon the State Highway. The expense of building that part of the wall within the limits of the State Highway was originally paid by the Highway Commission.

On Oct. 1, 1925, a contract was made with William E. Burke for placing about 800 tons of stone riprap to protect about 300 linear feet of beach at the southerly end of this wall. The contract price for furnishing and placing this stone is \$6.95 for each ton in place in the completed work. One half the cost of this protection is to be paid by the Division of Highways. Work under this contract has not yet begun.

Amount expended during the year, \$24,507.43. Total expenditure to Dec. 1, 1925, \$61,302.24.

## PLYMOUTH HARBOR.

Under the provisions of chapter 46, Resolves of 1923, a payment of \$51,000 was made by the Commonwealth to the United States toward the cost of the improvement of this harbor under a project of the Federal Government. The work was contingent upon the construction by the town of Plymouth of a satisfactory terminal. The building of this terminal was delayed so that the dredging by the Federal Government was not begun until Sept. 29, 1925. The work is now in progress and about 23% completed.

During the fall of 1924 complaints were received by the Division regarding obstruction to navigation by old piles remaining in this harbor after the removal of old wharves by the Pilgrim Tercentenary Commission. Boats grounded upon these piles and, in one case at least, received serious damage.

On Dec. 4, 1924, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water two areas within which these piles were located. The contract prices for this work were: for dredging the areas, including the removal of all piles to the depth specified, and disposing of the dredged material, 68 cents per cubic yard, scow measurement; for removing boulders \$20 for each cubic yard. This work was completed Jan. 22, 1925, at a contract cost of \$6,693.24. Amount expended during the year, \$7,506.10. Total expenditure to Dec. 1, 1925, \$282,632.13.

## COMMONWEALTH PROPERTY AT PLYMOUTH.

By chapter 264 of the Acts of 1925, an appropriation not to exceed \$9,000 was made for the repair, care and maintenance of the property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Division of Waterways and Public Lands by vote of the Governor and Council on July 17, 1924.

During the year repairs have been begun to the pier upon this property by the placing of gravel filling and of stone riprap in front of the bulkhead. This work is now in progress. Arrangements have been made also for the care and maintenance of the grounds.

On June 24, 1925, a memorial fountain, built upon land of the State at the northwesterly corner of Water and North Streets by the National Society of the Daughters of the American Revolution, was dedicated and given to the Commonwealth. The Division has assumed the care and maintenance of this fountain. Amount expended during the year, \$5,570.58. Total expenditure to Dec. 1, 1925, \$5,570.58.

#### QUANSETT HARBOR, ORLEANS.

While the work of dredging channels in Namequoit River and Pleasant Bay was in progress the Selectmen of Orleans petitioned for the dredging of a channel from Pleasant Bay into Quansett Pond. On Feb. 14, 1925, a contract was made with William E. Burke to dredge a channel 4 feet deep at mean low water and at least 40 feet wide on the bottom, from the 4-foot contour in Pleasant Bay to the 4-foot contour in Quansett Harbor, a distance of about 600 feet. The contract price for this work was the lump sum of \$2,000. Work under this contract was completed Mar. 7, 1925. The channel as actually dredged has a minimum width of 50 feet and an average depth of about 5 feet at mean low water. Toward the cost of this work the town of Orleans made a contribution of \$500. Amount expended during the year, \$2,000. Total expenditure to Dec. 1, 1925, \$2,194.50.

#### SCITUATE HARBOR.

Hearing was held on Feb. 25, 1925, upon a petition of the Selectmen of Scituate, and others, for dredging in Scituate Harbor.

On Sept. 25, 1925, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in Scituate Harbor to a depth of 6 feet at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material, 53 cents for each cubic yard measured in scows if deposited at sea, or in place if disposed of on shore; for excavating and disposing of boulders, \$20 for each cubic yard. This work was completed Nov. 24, 1925, at a contract cost of \$19,681.91. Under this contract a channel 600 feet long and 60 feet wide was dredged easterly of the wharves in this harbor, and the anchorage basin northerly of the Town Wharf was increased about one and one-third acres in area. Toward the cost of this work the town of Scituate made a contribution of \$5,000. Amount expended during the year, \$17,063.95. Total expenditure to Dec. 1, 1925, \$122,040.87.

#### WAQUOIT BAY, FALMOUTH AND MASHPEE.

An examination made in August of the breakwater at Waquoit showed that the outer end of the structure had settled to such an extent that it was submerged by high courses of tides.

On Oct. 1, 1925, a contract was made with William E. Burke to furnish and place about 200 tons of heavy stone riprap in the construction of a beacon at the outer end of the breakwater. The contract price for this work is \$6.95 for each ton in place in the completed work. Work has not begun under this contract. No expenditure has been made during the year. Total expenditure to Dec. 1, 1925, \$54,139.85.

#### WEST FALMOUTH HARBOR, FALMOUTH.

Hearing was held Feb. 25, 1925, upon a petition of the Selectmen of Falmouth, and others, for dredging a channel and basin at West Falmouth.

On Sept. 24, 1925, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water about 15,000 cubic yards of material in an entrance channel and about 7,500 cubic yards in an anchorage basin. The contract prices for this work were: for dredging and disposing of the dredged material 46 cents for each cubic yard, measured in scows if deposited at sea or measured in place if excavated by hydraulic process; for excavating and disposing of boulders, \$18 for each cubic yard. This work was completed Nov. 21, 1925, at a contract cost of \$13,632.40. Under this contract a channel has been dredged 1,200 feet long, 100 feet wide on the bottom and 6 feet deep at mean low water, and an anchorage basin of about 1.5 acres of the same



depth has been provided. Toward the cost of this work contributions amounting to \$3,473.75 were made by individuals interested. Amount expended during the year, \$11,848.45. Total expenditure to Dec. 1, 1925, \$36,302.08.

#### WITCHMERE HARBOR, HARWICH.

The work under contract of Nov. 13, 1924, with Joseph W. Nickerson for constructing a stone jetty in place of the timber one on the easterly side of the harbor, and for the placing of stone chips to seal openings in the westerly jetty, was completed Feb. 13, 1925. The completed stone jetty is 100 feet long and is built upon the line of the old timber jetty a portion of which has been removed. Amount expended during the year, \$9,389.54. Total expenditure to Dec. 1, 1925, \$47,956.54.

### MISCELLANEOUS.

#### ANGLE TREE MONUMENT RESERVATION.

Chapter 289 of the Acts of 1925, establishing this reservation, provides:

"SECTION 1. The department of public works on behalf of the commonwealth may take by eminent domain under chapter seventy-nine of the General Laws, or acquire by gift, purchase or otherwise, such land or interests therein as may be necessary to preserve and protect the Angle Tree Monument, so-called, erected by the commonwealth in seventeen hundred and ninety, in pursuance of a resolve of the general court, to mark the place where the Angle Tree formerly stood which served as a bound between the Massachusetts Bay and Plymouth colonies, and to secure access to said monument from the highway. Any deed of any such land to the commonwealth shall first be approved as to form by the attorney general.

"SECTION 2. The land so acquired shall be known as the Angle Tree Monument Reservation. Said reservation and monument shall be under the joint control and management of, and shall be kept in proper condition and repair by, the towns of North Attleborough and Plainville, acting through their selectmen, who, for said purposes, shall constitute a joint board. Said towns may appropriate money for said purposes, to be expended upon the order and under the direction of said board. The commissioner of public works shall notify said board whenever in his opinion such reservation or monument is not being maintained in proper condition and repair and shall specify in said notice what repairs and improvements therein are necessary, and said board shall forthwith cause to be made the repairs and improvements so specified. In case of non-compliance within sixty days after receipt of said notice or within such further time as said commissioner may allow, the commissioner shall cause such repairs or improvements to be made, the same to be paid for, in the first instance, from the general revenue of the commonwealth. The commissioner shall certify to the state treasurer the amount of such payments and one half of all such amounts shall be assessed upon each of said towns and collected and paid over to the state treasurer in the same manner and at the same time as state taxes.

"SECTION 3. For the purposes of section one, the department of public works may expend such sum, not exceeding seven hundred and fifty dollars, as may hereafter be appropriated."

The Department, in accordance with this act, has made a survey and plan of the land around the monument and has held conferences with individuals interested relative to the acquisition of the necessary property. No land has yet been taken for this purpose.

#### GREAT PONDS.

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds, was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Division has considered matters relating to: Alum Pond, Sturbridge; Baddacook Pond, Groton; Bartlett Pond, Plymouth; Big Pond, Otis; Bungay Reservoir or Greenwood Lake, North Attleborough and Mansfield; Cedar Dell Pond, Dartmouth; Cedar Pond, Carver; Coopers Pond, North Carver; Crystal Lake, Newton; Island Creek Pond, Duxbury; Lake Massapoag, Sharon; Lake Quinsigamond, Worcester; Lake Whalom, Lunenburg; Lake Winthrop, Holliston; Laurel Lake, Lee; Massapoag Pond, Lunenburg; North Pond, Florida; Quaboag Lake, Brookfield; Silver Lake, Pittsfield; Singletary Pond, Sutton; Skinequit Pond, Harwich; Snipatuit Pond, Rochester; South Pond, Savoy.

A list of the lakes and ponds of the State with areas of ten or more acres, given by counties, is printed in the report of the Commission on Waterways and Public Lands on "Water Resources of Massachusetts, 1918."

Surveys have been made during the year of the following ponds:

Name.	Town.	Area Surveyed (Acres).	Natural Area (Acres).	Maximum Depth (Feet).
Little Pond . . .	Sherborn . . .	27.26	21.43	22.0
Silver Lake . . .	Pittsfield . . .	31.19	31.19	29.5
North Pond . . .	Florida . . .	19.23	17.04	31.4
South Pond . . .	Savoy . . .	28.99	25.58	11.3
Cedar Pond . . .	Carver . . .	10.90	10.90	— <sup>1</sup>
Island Creek Pond . .	Duxbury . . .	— <sup>2</sup>	—	—

<sup>1</sup> No water at time of survey.

<sup>2</sup> Part of pond surveyed.

Amount expended during the year, \$2,134.32. Total expenditure to Dec. 1, 1925, \$10,674.52.

ACCESS TO GREAT PONDS.

Two petitions relative to public access to great ponds were filed during the year in accordance with the provisions of chapter 453 of the Acts of 1923.

On May 14, 1925, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth representing that public necessity requires a right of way for public access to Little Pond, Sherborn. No further action has been taken.

On Nov. 19, 1925, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth representing that public necessity requires a right of way for public access to Island Creek Pond, Duxbury. No further action has been taken.

During the year two special reports were made by the joint board to the Legislature regarding petitions filed during 1924 under the provisions of chapter 453 of the Acts of 1923.

House No. 178 of 1925, relative to acquiring a right of way for public access to the great pond known as Glen Echo Lake in the town of Stoughton, concludes:

"Upon consideration of all the evidence, the board finds that it appears that no right of way for public access to this pond exists, and that public convenience and necessity do not require that such right of way be established."

No further action was taken in this matter.

House No. 209 of 1925, relative to public access to Long Pond in the town of Blandford, ends with the following conclusions and recommendations:

"The joint board finds that Long Pond in the town of Blandford is a great pond and that its area in a natural condition was 54.5 acres;

"That no right of way for public access to this pond exists;

"That public necessity and convenience require the establishment of a right of way for public access to Long Pond. . . .

"The joint board recommends:

"That the expense of providing this right of way should be borne by the County of Hampden or by the cities and towns of said county as the county commissioners shall determine;

"That the county commissioners should take the necessary land to provide



this access and that the county should be relieved of the necessity of doing any work on this right of way, and also any liability for damages arising from the use of the way."

Chapter 102 of the Acts of 1925, providing for the establishment of a right of way for public access to Long Pond, Blandford, was passed in accordance with these recommendations.

Expenditures under the provisions of chapter 453 of the Acts of 1923 are included in the amounts given under Great Ponds.

#### PROVINCE LANDS.

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Thirty acres of sand dunes have been covered with brush and 9 acres of bayberry transplanted. In addition 15,000 pines on the sod have been transplanted and 143,000 seedlings.

The sum of \$222.94 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands. Amount expended during the year, \$4,246.58. Total expenditure to Dec. 1, 1925, \$106,212.56.

#### STATE BOUNDARIES.

Chapter 1 of the General Laws, section 4, requires that the Division of Waterways and Public Lands of the Department of Public Works shall in the year 1925 and in every fifth year thereafter, inspect all monuments or other marks defining the location of the boundary lines of the Commonwealth, and if any of them have been injured, displaced, removed or lost, the Division shall, in co-operation with persons duly authorized by the adjoining State, restore them or replace them with suitable stone monuments, and in the same manner set suitable stone monuments at points not properly marked where the State boundary is intersected by the boundary of any counties, cities or towns in the Commonwealth or by a highway or railroad. If officers of adjoining States are required to make such inspection at other times, the Division may co-operate with them. By chapter 211, Acts of 1925, Item 614, a sum not exceeding \$3,500 was made available for services and expenses in the inspection of State boundary monuments.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New York was made conjointly with Russell S. Greenman, representing the State of New York, beginning June 2 and ending June 27, 1925. All the marks were visited on the dates given in the tables<sup>1</sup> and found, with certain exceptions, to be in good condition and properly set.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New Hampshire was made conjointly with Leon C. Marshall, representing the State of New Hampshire, beginning June 29 and ending July 16, 1925. All the marks were visited on the dates given in the tables<sup>1</sup> and found, with certain exceptions, to be in good condition and properly set.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Vermont was made conjointly with George A. Reed, representing the State of Vermont, beginning July 20 and ending July 29, 1925. All the marks were visited on the dates given in the tables<sup>1</sup> and found, with certain exceptions, to be in good condition and properly set.

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<sup>1</sup> Tables may be examined in the files of the department.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Rhode Island and Providence Plantations was made conjointly with Everett A. Kingsley, representing the State of Rhode Island, beginning Aug. 3 and ending Aug. 17, 1925. All the marks were visited on the dates given in the tables<sup>1</sup> and found, with certain exceptions, to be in good condition and properly set.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Connecticut was made conjointly with Robert S. Treat, representing the State of Connecticut, beginning Oct. 12 and ending Oct. 28, 1925. All the marks were visited on the dates given in the tables<sup>1</sup> and found, with certain exceptions, to be in good condition and properly set.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS.

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, whereby work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Division, said data being available for other Departments of the Commonwealth.

Toward the cost of this work the Department has paid during the year \$3,998.71.

#### TOPOGRAPHICAL MAP OF MASSACHUSETTS, TOWN BOUNDARY ATLASES OF THE BOUNDARY LINES OF CITIES AND TOWNS, AND OTHER MAPS.

Under authority of section 33, chapter 91, General Laws, as amended by section 2, chapter 57, Acts of 1923, and under previous laws, 4,838 sections of the topographical map of Massachusetts, 49 maps of Massachusetts, dated 1917, 65 maps of Boston Inner Harbor, edition of 1923, 9 maps of Cape Cod Canal, 7 maps of the Province Lands at Provincetown and 6 atlases of the boundary lines of cities and towns have been sold during the year ending Nov. 30, 1925, for which \$762 was received and paid into the treasury of the Commonwealth.

No town boundary atlases were distributed during the year under authority of chapter 360, Acts of 1900, as amended by chapter 484, Acts of 1909.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS.

By section 33, chapter 91, General Laws, the Division is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 5 stations in Cotuit and 8 stations in Attleboro.

In addition the following triangulation stations were determined: 2 stations in Natick; 5 stations in Framingham; and one station in Pittsfield.

The geographical positions of 15 stations in Nantucket were computed and furnished to the Land Court.

Amount expended during the year, \$470.67.

#### LICENSES AND PERMITS.

During the year 127 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 100 permits for miscellaneous purposes. The Division also approved 47 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

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<sup>1</sup> Tables may be examined in the files of the department.



SPECIAL REPORTS TO THE LEGISLATURE.

Glen Echo Lake, a great pond, in Stoughton, Public access to. — Report made Dec. 22, 1924, by the Attorney-General and the Division of Waterways and Public Lands, under chapter 453, Acts of 1923. (House 178 of 1925.)

Long Pond, a great pond in Blandford, Public access to. — Report made Dec. 31, 1924, by the Attorney-General and the Division of Waterways and Public Lands, under chapter 453, Acts of 1923. (House 209 of 1925.)

“Victory Plant”, at Squantum, in Quincy, as to advisability of acquiring by Commonwealth. — Report made Jan. 13, 1925, by the Division of Waterways and Public Lands, under chapter 23, Resolves of 1924. (House 421 of 1925.)

APPENDIX.

RECEIPTS DURING FISCAL YEAR 1925.

*Port of Boston Fund.*

Rent under leases and permits . . . . .	\$113,341 78	
Use of Commonwealth Pier 5 . . . . .	165,743 43	
Use of Commonwealth Pier 1 . . . . .	3,056 85	
Use of Hayward Creek Property . . . . .	538 00	
Use of Diving Scow . . . . .	182 50	
Inspection of Dumping, Boston Harbor . . . . .	10,454 27	
Dumping at Receiving Basins . . . . .	11,974 54	
License Charges, Boston Harbor . . . . .	3,000 00	
Pay Station Receipts . . . . .	121 55	
Sale of land — South Boston . . . . .	48,660 71	
Sale of railway material . . . . .	365 73	
Sale of brick . . . . .	157 50	
Sale of Boston Harbor maps . . . . .	32 50	
		\$357,629 36

*Waterways Fund.*

Inspection of Dumping, outside of Boston Harbor . . . . .	\$166 88	
License charges, outside of Boston Harbor . . . . .	479 60	
		646 48

*Income from Sundry Sources.*

Inspection of Dumping, outside of Boston Harbor . . . . .	\$448 62	
License charges, outside Boston Harbor . . . . .	2,226 90	
Sale of Massachusetts Atlas Sheets and miscellaneous maps . . . . .	729 50	
Sale of contract specifications and plans . . . . .	84 00	
Certified Copying Charges . . . . .	101 50	
Charges under permits (Menamsha) . . . . .	35 00	
		3,625 52
Use of Province Lands . . . . .		222 94
Use of State Pier, New Bedford . . . . .		2,846 49
Interest on Bank Accounts . . . . .		180 72
		\$365,151 51

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1925, INCLUSIVE.

PAYMENTS.	Boston Harbor.	Common-wealth Flats at East Boston.	Common-wealth Flats at South Boston.	Castle Island Filling.	Common-wealth Pier No. 5.	Common-wealth Pier No. 6.	Dry Dock.	Haywards Creek.	Mystic River.
To Nov. 30, 1924	\$1,700,103 16 <sup>1</sup>	\$3,058,852 26	\$4,848,135 31	\$724,535 42	\$4,000,791 82	\$1,092,149 06	\$3,169,651 15 <sup>2</sup>	\$385,959 61 <sup>3</sup>	\$411,801 81 <sup>4</sup>
1925.									
Boston Harbor Minor Channels	372 76	-	-	-	-	-	-	-	-
Dredging and Filling	-	889 07	-	1,398 36	-	-	-	-	-
Streets, Piers and Railroad Tracks	-	156 00	1,299 01	-	2,759 08	-	-	-	-
Aircraft Landing Field	-	299 20	-	-	-	-	-	-	-
Operation and maintenance of property	-	-	-	-	-	-	-	-	-
Totals	\$1,700,475 92	\$3,060,196 53	\$4,849,434 32	\$725,933 78	\$4,003,550 90	\$1,092,149 06	\$3,169,651 15	\$385,959 61	\$411,801 81

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.  
<sup>2</sup> \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.  
<sup>3</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation, \$38,600.  
<sup>4</sup> Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1925, INCLUSIVE — Concluded.

PAYMENTS.	Malden River.	Chelsea Creek.	Commercial Point, Dorchester Bay.	Commonwealth Pier No. 1, East Boston.	Commonwealth Pier No. 5, Supervision and Operation.	Commonwealth Pier No. 1, Maintenance.	Maintenance of Property of Commonwealth.
To Nov. 30, 1924	\$32,268 70 <sup>1</sup>	\$60,519 88	\$53,213 10	\$1,101,274 26	\$750,152 51	\$56,458 68	\$432,104 58
1925.							
Boston Harbor Minor Channels	-	-	-	-	12,096 66	-	-
Dredging and Filling	-	-	-	-	-	-	-
Streets, Piers and Railroad Tracks	-	-	-	-	2,727 00	-	-
Aircraft Landing Field	-	-	-	-	-	-	-
Operation and maintenance of property	-	-	-	-	102,767 79	7,596 44	60,009 25
Totals	\$32,268 70	\$60,519 88	\$53,213 10	\$1,101,274 26	\$867,743 96	\$64,055 12	\$492,113 83

Grand total, \$22,160,341.93.  
<sup>1</sup> Expended by United States government, \$31,000; contribution by Standard Oil Company of New York, \$600.



EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS, FROM 1893 TO 1925, INCLUSIVE.

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Cottage Park Channel, Winthrop, Dredging . . . . .	\$1,000 00	\$22,012 08
Dorchester, easterly shore, Boston, Dredging . . . . .	1,000 00	84,780 47
Harbor View, Boston, Dredging . . . . .	—	146 00
Hingham Harbor, Dredging . . . . .	6,500 00	41,595 12
Houghs Neck Channel, Quincy, Dredging . . . . .	3,500 00	29,312 18
Island End River, Everett, Survey . . . . .	—	264 10
Jeffries Point Channel, Dredging . . . . .	—	2,961 90
Mystic River (near Lawrence & Wiggin's wharf), Dredging . . . . .	—	5,927 70
Neponset River, Dredging . . . . .	10,000 00	101,531 09
Old Harbor Cove, Dredging . . . . .	—	9,821 69
Orient Heights Channels, Dredging . . . . .	—	45,323 67
Pemberton Point, Hull, Breakwater . . . . .	60,000 00	90,316 48
Pleasant Park Yacht Club Channel, Dredging . . . . .	—	3,154 92
Point Allerton, Hull, Sea wall . . . . .	50,000 00	424 15
Point Shirley, Dredging . . . . .	—	3,713 37
Quincy Bay, Dredging . . . . .	3,000 00	54,416 37
Shirley Gut, Boston and Winthrop, Dredging . . . . .	—	2,110 96
South Boston, southerly shore, Dredging . . . . .	—	129,542 08
Stony Beach, Hull, Sea wall . . . . .	—	12,000 60
Weir River, Hull, Dredging . . . . .	25,000 00	130,963 51
Wessagussett Channel, Dredging . . . . .	—	815 20
Weymouth Fore River, Dredging . . . . .	—	32,759 20
Winthrop Harbor Channels, Dredging . . . . .	1,700 00	39,783 58
	<hr/>	<hr/>
	\$161,700 00	\$843,676 42

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM DEC. 1, 1924, TO NOV. 30, 1925, UNDER CHAPTER 91 OF THE GENERAL LAWS.

Location and Character of Work.	Contributions.	Expenditures.
Annisquam River, Gloucester, Dredging . . . . .	\$3,000 00	\$11,858 35
Brant Rock, Sea wall . . . . .	1,701 15	
Bucks Creek, Chatham:		
Timber jetty . . . . .	\$1,138 04	
Dredging . . . . .	166 31	
	<hr/>	<hr/>
		1,304 35
Cohasset Harbor, Survey . . . . .	5,000 00	40 52
Connecticut River, Hadley, Riprap . . . . .	—	2,151 58
Connecticut River, Holyoke, Riprap . . . . .	976 29	1,877 57
Cotuit Harbor, Bulkhead and spur jetties . . . . .	6,000 00	8,810 04
Edgartown Harbor, Survey . . . . .	—	249 42
Falmouth Heights, Sea wall . . . . .	1,222 54	2,445 08
Great Ponds, Survey . . . . .	—	2,060 14
Herring River, Wellfleet, Survey . . . . .	—	8 75
Improvement of Rivers and Harbors, General ex- penses . . . . .	—	3,721 72
Ipswich River, Dredging . . . . .	—	6,854 77
Manchester Harbor, Dredging . . . . .	—	2,503 93
Mitchells River, Chatham, Dredging . . . . .	6,000 00	22,790 96
Nantucket Harbor, Dredging . . . . .	—	2,929 13
Namequoit River and Pleasant Bay, Dredging . . . . .	500 00	15,382 58

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Concluded.*

Location and Character of Work.	Contributions.	Expenditures.
Nauset Harbor, Orleans, Dredging channel . . . . .	—	\$1,161 96
Oak Bluffs, Sea wall and jetties . . . . .	\$25,000 00	24,507 43
Pamett River, Truro, Survey . . . . .	—	33 55
Pleasant Bay, Chatham, Dredging . . . . .	—	324 65
Quansett Harbor, Orleans, Dredging . . . . .	500 00	2,000 00
Rockport Harbor, Survey . . . . .	—	168 17
Salem Harbor, Surveys . . . . .	—	300 67
Scituate Harbor, Dredging . . . . .	5,000 00	17,063 95
Scituate, Protective work . . . . .	11,033 20	—
Smiths Cove, Gloucester, Survey . . . . .	—	142 28
Warrens Cove, Plymouth, Survey . . . . .	—	321 03
West Falmouth Harbor, Survey and dredging . . . . .	3,473 75	11,848 45
Westport Harbor, Jetty extension . . . . .	—	2,595 35
Witchmere Harbor, Jetty . . . . .	—	83 97
	<hr/>	<hr/>
	\$69,406 93	\$145,540 35

## EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1925, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Acushnet River, Inspection and dredging . . . . .	—	\$118,764 85
Allens Harbor, Harwich, Surveys . . . . .	—	302 00
Allens Pond, Dartmouth, Survey . . . . .	—	195 95
Annisquam River, Gloucester, Dredging, removing ledges and riprap . . . . .	\$3,000 00	128,660 34
Apponagansett Harbor and River, Dartmouth, Survey, dredging, and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Barnstable, Survey and dredg- ing . . . . .	1,500 00	18,554 64
Bass River, Beverly, Dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, Jetties, dredging and survey . . . . .	2,500 00	115,390 70
Beach Street, Scituate, Wall and jetties. See Scituate.		
Beverly Harbor, Dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, Sea wall . . . . .	3,701 15	18,178 75
Bucks Creek, Chatham, Jetties, survey and dredg- ing . . . . .	2,500 00	39,719 69
Buzzards Bay, Falmouth, Survey . . . . .	—	166 11
Cataumet Harbor. See Megansett Harbor.		
Cedar Point, Scituate, Wall and breakwater. See Scituate.		
Centerville River, Barnstable, Dredging . . . . .	1,500 00	7,603 22
Cohasset Harbor, Cohasset, Breakwater and dredg- ing . . . . .	25,691 88	66,234 17
Concord River, Billerica, Removing boulders . . . . .	150 00	1,664 59
Connecticut River, Investigation of navigation and surveys . . . . .	—	7,074 62
Connecticut River, Agawam, Protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, Survey, wall and riprap . . . . .	640 00	25,789 02
Connecticut River, Hadley, Protective work and diversion wall . . . . .	5,000 00	112,552 48 <sup>2</sup>

<sup>1</sup> \$50,000 expended by U. S. Government.<sup>2</sup> From 1888, inclusive.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Connecticut River, Hatfield, Dikes and riprap . . .	\$1,000 00	\$14,952 57
Connecticut River, Holyoke, Marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Holyoke, Dredging and pro- tective work . . . . .	1,991 29	9,253 27
Connecticut River, Northampton, Protective work . .	—	1,524 20
Connecticut River, Northfield, Riprap . . . . .	—	3,662 28
Connecticut River, South Hadley, Wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, Protective work . . . . .	—	12,510 08 <sup>1</sup>
Conservation of Waters, Investigation . . . . .	—	51,764 62
Cotuit Harbor, Barnstable, Dredging and survey . .	8,000 00	68,416 69
Cuttyhunk Harbor, Gosnold, Jetties and dredging . .	9,000 00	70,754 18
Deacons Pond Harbor, Falmouth. See Falmouth Inner Harbor.		
Duxbury Bay and Harbor, Dredging . . . . .	2,000 00	42,602 29
East Bay, Osterville, Jetties, dredging and removing scows . . . . .	10,000 00	70,924 23
Edgartown Harbor, Survey and cut in beach . . . .	300 00	3,444 18
Ellisville Harbor, Plymouth, Dredging . . . . .	—	17,728 48
Essex County Beaches, Survey . . . . .	—	1,000 00
Essex River, Dredging . . . . .	—	76,304 33 <sup>2</sup>
Fall River Harbor, Improvement . . . . .	—	1,130 18
Falmouth Heights, Falmouth, Sea wall . . . . .	14,222 54	53,858 08
Falmouth Inner Harbor, Dredging jetties and wall . .	14,000 00	108,707 03
First and Second Cliffs, Scituate, Wall and riprap. See Scituate.		
Fresh Water Cove, Gloucester, Dredging . . . . .	3,300 00	17,477 53
Glades, North Scituate, Filling and riprap. See Scituate.		
Gloucester, Western Avenue, Sea wall . . . . .	35,000 00	60,000 00
Gloucester Harbor, Gloucester, Dredging and re- moving ledges . . . . .	7,500 00	118,994 65
Great Ponds, Survey . . . . .	—	10,674 52
Green Harbor, Marshfield, Jetties, dredging and survey . . . . .	—	76,466 85
Gun Rock Point, Hull, Breakwater . . . . .	10,000 00	65,668 52
Harbor Cove, Gloucester, Survey and dredging . .	866 00	19,394 73
Herring Creek, Scituate, Survey . . . . .	—	253 76
Herring River, Harwich, Jetties and dredging . . .	2,500 00	56,992 16
Herring River, Wellfleet, Dikes and ditches . . .	10,000 00	32,917 86
Housatonic River, Sheffield, Survey . . . . .	—	2,011 29
Hull, Sea walls and survey . . . . .	8,882 06	37,906 21
Humarock Beach, Scituate, Survey, wall and jetties. See Scituate.		
Hyannisport, Barnstable, Survey and breakwater . .	2,500 00	65,017 76
Improvement of Rivers and Harbors, General expenses . . . . .	—	24,173 07
Ipswich River, Ipswich, Jetty, wall, riprap and dredging . . . . .	3,800 00	58,702 17
Kings Beach, Swampscott, Removal of obstruction . .	—	166 41
Lake Anthony, Oak Bluffs, Jetties and dredging . .	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, Investigation . . .	—	345 32

<sup>1</sup> From 1891, inclusive.<sup>2</sup> \$5,000 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Lewis Bay, Barnstable, Survey and dredging . . . . .	—	\$28,963 21
Little Harbor, Marblehead, Dredging . . . . .	\$2,500 00	11,166 16
Little River, Gloucester, Survey . . . . .	—	862 93
Lobster Cove, Gloucester, Dredging . . . . .	1,500 00	50,239 86
Lynn Harbor, Anchorage Basin, Survey and dredging . . . . .	5,200 00	121,603 97
Lynn Harbor and Saugus River, Dredging and filling . . . . .	37,500 00	163,431 53
Manchester Harbor, Survey, jetties and dredging . . . . .	57,000 00	135,926 28
Mattapoissett Harbor, Survey . . . . .	—	255 48
Megansett Harbor, Dredging . . . . .	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, Jetties, dredging and sea wall . . . . .	700 00	81,699 08
Merrimack River, Investigation and survey . . . . .	—	1,208 50
Mill River, Gloucester, Survey and dredging . . . . .	300 00	24,899 59
Mitchells River, Chatham, Survey and dredging . . . . .	6,000 00	23,113 92
Nahant, Survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, Dredging . . . . .	5,500 00	28,529 62
Nantucket Harbor, Dredging . . . . .	5,000 00	58,982 52
Nauset Harbor and Town Cove, Dredging . . . . .	2,000 00	10,671 24
New Bedford Harbor, Dredging . . . . .	—	18,856 57
New Bedford State Pier, Pier, shed and dredging . . . . .	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, Operation and maintenance . . . . .	—	30,790 18
Newburyport Harbor, Survey . . . . .	—	115 97
Nobscusset Harbor, Dennis, Breakwater, dredging and riprap . . . . .	1,200 00	39,778 84
North River, Marshfield, Surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, Survey . . . . .	—	704 52
North Scituate, Spur jetties. See Scituate. . . . .	—	594 95
Oak Bluffs, Removing rocks . . . . .	—	594 95
Oak Bluffs, Sea wall . . . . .	27,500 00	61,302 24
Onset Bay, Wareham, Survey and dredging . . . . .	1,000 00	15,295 89
Orleans, Survey . . . . .	—	104 18
Palmers Pond, Falmouth, Survey . . . . .	—	358 76
Pamet River, Truro, Survey, dredging and repairing jetties . . . . .	1,200 00	198,010 32
Paskamansett River, Dartmouth, Dredging and jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, Pile wharf and survey . . . . .	—	5,192 95
Pines River, Revere and Saugus, Survey . . . . .	—	904 80
Pleasant Bay, Chatham, Dredging . . . . .	600 00	2,364 33
Plum Island River, Newbury and Newburyport, Survey . . . . .	—	983 31
Plymouth Harbor, Dredging and removing old piling . . . . .	71,794 55	282,632 13 <sup>2</sup>
Plymouth Memorial Park, Maintenance . . . . .	—	5,570 58
Popponnesett Bay, Barnstable and Mashpee, Dredging . . . . .	—	46,252 33
Powow River, Amesbury, Dredging channel and riprapping wall . . . . .	—	502 94
Province Lands, Provincetown, Reclamation . . . . .	—	106,212 56
Provincetown Harbor, Shore protection . . . . .	—	26,210 37
Quansett Harbor, Orleans, Survey and dredging . . . . .	500 00	2,194 50

<sup>1</sup> Paid by surety company.

<sup>2</sup> \$57,000 expended under direction of U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Red Brook Harbor, Bourne, Removing pier . . . . .	—	\$275 00
Revere, Stone breakwater . . . . .	—	60,397 93
Rock Harbor, Orleans, Dredging . . . . .	\$400 00	12,492 71
Rockport Harbor, Dredging and removing rocks . . . . .	—	13,917 19
Salem Harbor, Survey . . . . .	—	1,490 57
Salt Pond River, Eastham, Survey . . . . .	—	210 11
Salters Point, Dartmouth, Breakwater . . . . .	4,500 00	42,939 57
Sand Hills, Scituate, Wall and jetties. See Scituate.		
Sandwich Harbor, Dredging channel, riprap and jetties . . . . .	—	80,579 84
Saugus River, Lynn and Saugus, Survey and dredging . . . . .	2,000 00	20,845 17
Scituate, shore protection:		
Beach Street, Scituate . . . . .	17,333 52	34,782 50
Cedar Point, Scituate . . . . .	21,446 64	36,991 60
First and Second Cliffs, Scituate . . . . .	1,797 92	12,139 85
Glades, Scituate . . . . .	12,250 78	26,925 49
Humarock Beach, Scituate . . . . .	37,816 38	56,960 63
North Scituate — Surfside . . . . .	1,757 60	16,261 31
Sand Hills, Scituate . . . . .	4,511 26	12,624 06
Third Cliff, Scituate . . . . .	74,741 78	120,028 17
Scituate Harbor, Dredging . . . . .	13,300 00	122,040 87
Scorton Harbor, Sandwich, Jetty and dredging . . . . .	500 00	17,774 34
Sesuit Harbor, Dennis, Jetty . . . . .	1,500 00	24,555 10
Shirley Gut, Survey . . . . .	—	97 05
Sippican Harbor, Marion, Survey . . . . .	—	7 17
Smiths Cove, Gloucester, Survey and dredging . . . . .	—	5,305 30
South River, Salem, Dredging . . . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, Fenders and excavation . . . . .	—	203 42
Stage Harbor, Chatham, Dikes and survey . . . . .	—	10,803 01
Taunton-Brockton Waterway, Investigation . . . . .	—	5,278 18
Taunton River, Survey and dredging . . . . .	12,500 00	28,697 18
Taunton River-Boston Harbor Canal, Survey . . . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, Survey . . . . .	—	11,786 71
Third Cliff, Scituate, Riprap and survey. See Scituate.		
Vineyard Haven Harbor, Repairing sea wall . . . . .	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, Breakwater and dredging . . . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater, wall and bulkhead . . . . .	2,000 00	54,139 85
Wareham River, Survey and dredging . . . . .	5,000 00	42,567 93
Warrens Cove, Plymouth, Sea wall and survey . . . . .	9,713 98	25,083 02
Watch Hill, Chatham, Survey and riprap . . . . .	—	14,968 75
Wellfleet Harbor, Survey and dredging . . . . .	1,500 00	17,600 29
West Bay, Barnstable and Osterville, Jetties and dredging . . . . .	10,000 00	88,690 61
West Falmouth Harbor, Falmouth, Dredging . . . . .	3,473 75	36,302 08
West Harwich, Survey . . . . .	3,000 00	11,692 65
Westfield River, Westfield, Survey and jetties . . . . .	—	6,037 29
Westport Harbor, Jetty extension . . . . .	—	19,025 07
Wild Harbor, Falmouth, Jetty and dredging . . . . .	5,000 00	36,137 71
Winthrop Shore, Sea walls and protective work . . . . .	3,000 00	20,087 02

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Concluded.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Witchmere Harbor, Harwich, Jetties and dredging .	\$1,000 00	\$47,956 54
Woods Hole, Great Harbor, Falmouth, Dredging .	1,500 00	6,968 86
Wrecks, Removal from tidewater . . . . .	—	9,312 17
Yarmouthport Harbor, Survey . . . . .	7,000 00	95,977 37
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	\$772,476 07	\$5,742,854 39



## FEDERAL APPROPRIATIONS AND EXPENDITURES.

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1925, as shown in the following tables, furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement.*

[Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1925.]

Locality.	Expenditures.	Appropriations.
Newburyport Harbor . . . . .	\$500,527 57	\$500,900 00
Boston Harbor . . . . .	12,739,359 48	13,189,827- 58
Beverly Harbor . . . . .	125,323 50	245,090 41 <sup>1</sup>
Mystic River (upper portion) . . . . .	306,684 84	330,684 84
Mystic River (below mouth to Island End River) } . . . . .		
Weymouth Fore River . . . . .	581,721 55	633,750 00
Plymouth Harbor . . . . .	366,666 64	420,459 80 <sup>2</sup>
Pollock Rip Shoals, Nantucket Sound . . . . .	1,141,205 60	1,170,000 00
Nantucket Harbor of Refuge . . . . .	590,682 07	633,473 50
New Bedford and Fairhaven Harbors . . . . .	895,922 78	899,610 00
Fall River Harbor . . . . .	410,388 53	412,411 49
Totals . . . . .	\$17,658,482 56	\$18,436,207 62

TABLE NO. 2. — *Localities in which Work is not now in Progress.*

[Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army.]

Locality.	Expenditures.	Appropriations.
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Gloucester Harbor . . . . .	538,183 00	538,183 00
Salem Harbor . . . . .	71,368 66	71,368 66
Lynn Harbor . . . . .	471,637 00	471,637 00
Malden River . . . . .	149,950 00	149,950 00
Dorchester Bay and Neponset River . . . . .	95,008 00	95,008 00
Weymouth Back River . . . . .	27,000 00	27,000 00
Provincetown Harbor . . . . .	348,062 72	348,062 72
Taunton River . . . . .	204,189 18	204,189 18
Sandy Bay, Cape Ann, harbor of refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Marthas Vineyard Harbor . . . . .	7,000 00	7,000 00

<sup>1</sup> In addition \$100,000 has been contributed by local interests.

<sup>2</sup> In addition \$108,400 has been contributed by local interests.

TABLE NO. 2. — *Localities in which Work is not now in Progress.* — Concluded.

Locality.	Expenditures.	Appropriations.
Powow River . . . . .	\$50,940 72	\$51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Scituate Harbor . . . . .	104,590 98	104,680 00
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Totals . . . . .	\$5,520,134 23	\$5,542,719 53
Recapitulation.	Expenditures.	Appropriations.
Total of Table No. 1 . . . . .	\$17,658,482 56	\$18,436,207 62
Total of Table No. 2 . . . . .	5,520,134 23	5,542,719 53
Totals . . . . .	\$23,178,616 79	\$23,978,927 15

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1925.

[The tributaries given are those now under improvement and do not include tributaries heretofore improved.]

Locality.	Expenditures.	Appropriations.
Boston Harbor proper <sup>1</sup> . . . . .	\$12,739,359 48	\$13,189,827 58
Mystic River (below mouth of Island End River) <sup>2</sup> }	306,684 84	330,684 84
Mystic River (upper portion) <sup>2</sup> }		
Totals . . . . .	\$13,046,044 32	\$13,520,512 42

<sup>1</sup> Including Chelsea Creek.  
<sup>2</sup> Now one improvement.



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER

CON-TRACT No.	Work.	Contractor.	Date.
89	Herring River, Wellfleet, marsh drainage	William E. Burke . . . .	Oct. 3, 1923
96	Nantucket Harbor, dredging . . . .	Herbert T. Gerrish . . . .	May 2, 1924
97	Nauset Harbor, Town Cove, Namequoit River and Pleasant Bay, Orleans, dredging.	William E. Burke . . . .	June 5, 1924
98	Manchester Harbor, dredging . . . .	Bay State Dredging & Contracting Co.	July 2, 1924
101a	Commonwealth Pier 5, dredging west dock.	Bay State Dredging & Contracting Co.	Oct. 20, 1924
104	Commonwealth Pier 5, South Boston, building additional office.	Casey and Darcy Company . .	Aug. 20, 1924
107	Annisquam River, Gloucester, dredging .	Bay State Dredging & Contracting Co.	Nov. 6, 1924
108	Witchmere Harbor, Harwich, jetties .	Joseph W. Nickerson . . . .	Nov. 13, 1924
109	Commonwealth Pier 5, dredging east dock	Rendle-Kenney Dredging & Contracting Co.	Dec. 4, 1924
110	Cotuit, timber bulkhead . . . .	Charles I. Hosmer . . . .	Dec. 2, 1924
111	Plymouth Harbor, dredging . . . .	Bay State Dredging & Contracting Co.	Dec. 4, 1924
112	Connecticut River, Holyoke, protective work.	Daniel O'Connell's Sons . . .	Jan. 5, 1925
113	Quansett Harbor, Orleans, dredging .	William E. Burke . . . .	Feb. 14, 1925
114	Commonwealth Pier 5, floating fenders .	William L. Miller Co. . . .	Mar. 6, 1925
115	Mitchells River, Chatham, dredging .	Bay State Dredging & Contracting Co.	May 28, 1925
116	Oak Bluffs, concrete sea wall and timber jetties.	Guiney and Hanson Construction Company.	June 11, 1925
117	Green Hill, Hull, repairs to sea wall .	Frank H. Barry . . . .	June 18, 1925
118	Commonwealth Pier 5, roof repairs and waterproofing.	L. B. Renfrew Gray . . . .	July 30, 1925

## WATERWAYS AND PUBLIC LANDS, AND IN FORCE DURING THE YEAR ENDING 30, 1925.

Condition of Work.		Contract Prices.	Amount paid during Year ending Nov. 30, 1925.	Total paid to Nov. 30, 1925.	Estimated Amount of Contract.
Completed 29, 1925.	May	For excavating channel and disposing of material, 54.7 cents per cubic yard, measured in situ.	\$1,858 41	\$9,018 64	\$10,000 00
Completed 6, 1925.	May	Dredging, 67 cents per cubic yard deposited on shore, measured in situ. Removal of boulders, \$35 per cubic yard.	2,795 68	15,053 56	15,745 00
Completed 6, 1925.	Feb.	Dredging, 46 cents per cubic yard, measured in scows. Removal of boulders, \$12 per cubic yard.	15,869 23	27,122 60	28,000 00
Completed 12, 1925.	Jan.	Dredging, 40 cents per cubic yard, measured in scows. Removal of boulders, \$20 per cubic yard.	2,420 00	11,600 00	11,000 00
Completed 29, 1925.	Jan.	Dredging, 46 cents per cubic yard, measured in scows. Removing boulders, \$20 per cubic yard.	2,415 67	14,037 36	16,000 00
Completed 27, 1925.	Jan.	Lump sum of \$5,193 . . . . .	2,544 57	5,193 00	5,193 00
Completed 7, 1925.	Jan.	Dredging, 42 cents per cubic yard, scow measurement. Removing boulders, \$20 per cubic yard.	11,088 42	11,088 42	11,200 00
Completed 13, 1925.	Feb.	For furnishing and placing stone chips in the easterly jetty, \$7.90 for each ton of 2,000 pounds in the completed work. For furnishing and placing stone chips back of westerly jetty, \$7.90 for each ton of 2,000 pounds in the completed work.	8,823 04	8,823 04	7,500 00
Completed 11, 1925.	Apr.	Dredging, 29½ cents per cubic yard, scow measurement. Removal of boulders, \$10 per cubic yard.	8,744 01	8,744 01	7,680 00
Completed 3, 1925.	Mar.	For furnishing materials and building timber bulkhead, \$4.60 per linear foot of bulkhead complete in place. For furnishing materials and building timber spur jetties, \$4.15 per linear foot of timber jetty complete in place. For excavating material and filling back of bulkhead, 50 cents per cubic yard of material in place.	8,190 90	8,190 90	8,000 00
Completed 22, 1925.	Jan.	Dredging, including the removal of piles, 68 cents per cubic yard, scow measurement. Removal of boulders, \$20 per cubic yard.	6,693 24	6,693 24	6,820 00
Completed 9, 1925.	Jan.	For furnishing and placing riprap and all incidental work, \$2 per ton of stone in place on the bank of the river.	1,836 00	1,836 00	1,836 00
Completed 7, 1925.	Mar.	Lump sum of \$2,000 . . . . .	2,000 00	2,000 00	2,000 00
Completed 1, 1925.	Apr.	For furnishing and placing square timber fenders, including chains and fittings complete, \$789 for each fender forty feet in length.	2,367 00	2,367 00	2,367 00
Completed 23, 1925.	Sept.	Dredging, 33 cents per cubic yard, measured in scows if taken to sea, or in situ if deposited on shore. Removal of boulders, \$20 per cubic yard.	21,476 40	21,476 40	17,000 00
-	-	For furnishing materials and constructing concrete wall and steps, \$19.25 per cubic yard of concrete measured in completed work. For furnishing materials and constructing timber spur jetties, \$8.50 for each linear foot measured in place. For excavating material from bank back of wall and placing as filling back of wall, 75 cents per cubic yard of material measured in place.	22,498 44	22,498 44	45,663 00
Completed 7, 1925.	Oct.	For furnishing masons and equipment, \$1.15 per hour. For furnishing laborers and equipment, 85 cents per hour. For furnishing Portland cement, \$1.00 per bag delivered on work. For furnishing sand, \$4.50 for each cubic yard delivered on work.	3,305 23	3,305 23	2,500 00
Completed 27, 1925.	Oct.	For making repairs to roofing, 10¼-cents per square foot. For making repairs to copper roof pans, \$6 per pan. For furnishing labor for waterproofing around Fenestra sash and for making minor repairs, \$1.10 per hour per man. For furnishing labor and equipment for applying waterproof coating to north wall of headhouse, 22½c. per square yard.	1,342 48	1,342 48	1,531 25



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER 30,

CON-TRACT No.	Work.	Contractor.	Date.
119	Commonwealth Pier 5 and Northern Avenue, sea walls, riprap protection.	William R. Farrell . . . .	July 30, 1925
121	West Falmouth, dredging . . . .	Bay State Dredging & Contracting Co.	Sept. 24, 1925
122	Commonwealth Pier 5, repairs to floor surfacing.	Warren Bros. Co. . . . .	Aug. 12, 1925
123	Viaduct and Ramp, South Boston, painting.	Steves Lacios Company . . . .	Sept. 10, 1925
125	Scituate Harbor, dredging . . . .	Bay State Dredging & Contracting Co.	Sept. 25, 1925
126	Waquoit Breakwater, repairs . . . .	William E. Burke . . . . .	Oct. 1, 1925
127	Oak Bluffs, riprap . . . . .	William E. Burke . . . . .	Oct. 1, 1925
128	Cohasset Harbor, dredging . . . .	Bay State Dredging & Contracting Co.	Oct. 9, 1925
129	Commonwealth Pier 5, office building	George W. Nicoll Company, Inc. .	Nov. 6, 1925
130	Menamsha, riprap in front of sea wall	William E. Burke . . . . .	Nov. 19, 1925

# WATERWAYS AND PUBLIC LANDS AND IN FORCE DURING THE YEAR ENDING 1925 — *Concluded.*

Condition of Work.		Contract Prices.	Amount paid during Year ending Nov. 30, 1925.	Total paid to Nov. 30, 1925.	Estimated Amount of Contract.
Completed 30, 1925.	Sept.	For furnishing and placing riprap in front of Pier 5 sea wall and that portion of Northern Avenue sea wall within the limits of said pier, \$7.83 for each ton of riprap in place. For furnishing and placing riprap in front of Northern Avenue sea wall outside limits of Pier 5, \$3.63 per ton of riprap in place.	\$10,965 03	\$10,965 03	\$14,400 00
Completed 21, 1925.	Nov.	For dredging, 46 cents per cubic yard, measured in scows, if deposited at sea, or measured in place if excavated by hydraulic process. For removing boulders, \$18 per cubic yard.	11,587 54	11,587 54	12,295 00
Completed 17, 1925.	Sept.	For furnishing and placing 2-inch Warrenite-Bitulithic wearing surface on second floor of west shed, \$2.00 per square yard of wearing surface. For furnishing and placing binder to fill depressions, \$10 per ton of binder. For making patches in pavement on first and second floors by placing 2-inch Warrenite-Bitulithic wearing surface on areas to be repaired, \$3.00 for each square yard of wearing surface placed.	5,020 93	5,020 93	5,020 93
-	-	Lump sum of \$8,400	4,284 00	4,284 00	8,400 00
Completed 24, 1925.	Nov.	For dredging, 53 cents per cubic yard, measured in scows if deposited at sea or measured in place if disposed of on shore. For removing boulders, \$20 per cubic yard.	16,729 62	16,729 62	20,000 00
-	-	For furnishing and placing granite quarry grout in a beacon at the end of breakwater, \$6.95 for each ton in place in completed work.	-	-	2,000 00
-	-	For furnishing and placing granite quarry grout, \$6.95 for each ton in place in completed work.	-	-	5,560 00
-	-	For dredging 49½ cents per cubic yard, measured in scows. For removing boulders, \$18 per cubic yard.	-	-	10,908 00
-	-	Lump sum of \$8,400	1,213 80	1,213 80	8,400 00
-	-	For furnishing and placing stone chips and riprap, \$9.89 for each ton of 2,000 pounds.	-	-	9,500 00



# INDEX.

## *Department of Public Works.*

	PAGE
Appropriations . . . . .	2
Organization, under chapter 16, General Laws . . . . .	1
Personnel . . . . .	1
Recommendations for Legislation . . . . .	38

## *Division of Highways.*

Advertising Signs and Devices within the Public View . . . . .	37
Bridges . . . . .	21
Common Carriers, Permits to use Highways . . . . .	37
Contract Prices Dec. 1, 1924, to Nov. 30, 1925 . . . . .	40
Contracts signed during the Year . . . . .	10
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties . . . . .	8
Expenditures, Summary for the Year . . . . .	7
Federal Aid in Constructing Highways . . . . .	18
Allotments to Massachusetts . . . . .	18
Mileage . . . . .	19
Statement of Road Projects . . . . .	19
General Statement as to Surveys, Plans, Estimates and Other Work during the Year . . . . .	8
Highway Improvements authorized by Special Acts . . . . .	18
Expenditures during the Year in the Five Western Counties . . . . .	18
Horse Power of Motor Vehicles . . . . .	36
Interstate Highway Routes and Signs . . . . .	37
Petitions, Meetings and Hearings . . . . .	8
Public Ways, exclusive of State Highways, in certain Towns . . . . .	31
Allotments or Contributions by the State and Towns . . . . .	31
Expenditures in Various Counties and Towns . . . . .	34
Towns where Work has been contracted for . . . . .	31
Sale of Maps . . . . .	38
Southern Route . . . . .	18
State Highways . . . . .	10
Construction and Reconstruction . . . . .	11
Contracts entered into for Work in Various Municipalities . . . . .	11
Expenditures in Various Counties and Municipalities . . . . .	16
Contracts for Reconstruction in anticipation of an appropriation . . . . .	35
Maintenance and Repair . . . . .	16
Expenditures in Various Counties and Municipalities . . . . .	16
Permits issued for Opening or Occupying State Highways . . . . .	9
Petitions received during the Year . . . . .	7, 10
Regulation of Traffic during Winter of 1924-1925 . . . . .	36
Resurfacing and Widening . . . . .	9
Trees . . . . .	9
Town and County Ways . . . . .	27
Allotments or Contributions by the State, Towns and Counties . . . . .	27
Expenditures in Various Counties and Towns . . . . .	30
Towns where Work has been contracted for . . . . .	27
Type of Road and length contracted for . . . . .	27
Weight and Carrying Capacity of Motor Vehicles . . . . .	36

## *Registry of Motor Vehicles.*

Accident Report Letters . . . . .	45
Aircraft Registrations . . . . .	48
Analysis of Court Abstracts received . . . . .	45
Brakes . . . . .	48

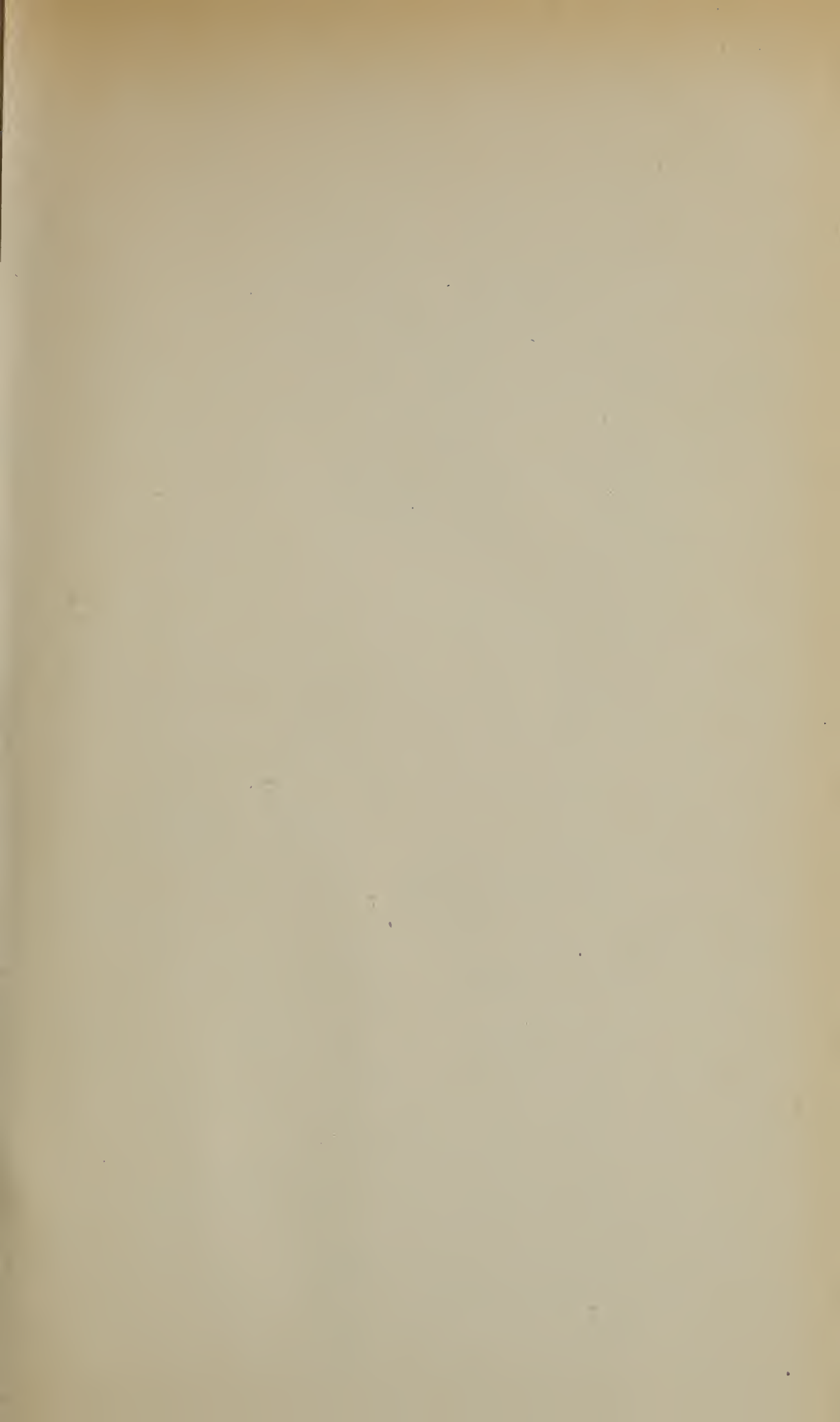
P.D. 54.	81
	PAGE
Branch Offices . . . . .	49
Comparative Statement for 1924 and 1925 . . . . .	52
Comparative Statement showing Ratio of Accidents to Yearly Registrations, Suspensions, etc. . . . .	45
Conference of Motor Vehicle Administrators . . . . .	48
Examinations for Licenses . . . . .	47
Expenditures for 1925 . . . . .	50
Headlighting . . . . .	47
Investigations and Prosecutions by Inspectors . . . . .	45
Motor Vehicle Deaths, Injuries, Collisions . . . . .	44
Number of Children killed and injured . . . . .	44
Number of Collisions . . . . .	44
Number of Persons killed and injured . . . . .	44
Rear Lamps . . . . .	48
Registrations, Licenses, Fees . . . . .	50
Analysis of Receipts . . . . .	50
Cost of Running the Registry of Motor Vehicles . . . . .	50
Court Fines received by the State Treasurer . . . . .	50
Motor Vehicle Fees Rebated . . . . .	50
Passenger Cars, Commercial Vehicles and Motor Cycles . . . . .	50
Total Receipts credited Motor Vehicle Fees Account, 1925 . . . . .	50
Revocations and Suspensions for 1924-25 . . . . .	46
Used-car Section . . . . .	48
Motor Vehicle Identification . . . . .	48
Engine Numbers assigned . . . . .	49
Motor Vehicles stolen . . . . .	49
Reports . . . . .	49

*Division of Waterways and Public Lands.*

Angle Tree Monument Reservation . . . . .	62
Annisquam River, Gloucester . . . . .	57
Beverly Harbor . . . . .	57
Boston Harbor . . . . .	53
Commonwealth Flats at East Boston . . . . .	55
Aircraft Landing Field . . . . .	55
Commonwealth Pier No. 1 . . . . .	55
Dredging and Filling . . . . .	55
Commonwealth Flats at South Boston . . . . .	53
Commonwealth Pier No. 5 . . . . .	53
Development of land south of Summer Street . . . . .	54
Viaduct and Ramp . . . . .	54
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1925, inclusive . . . . .	68
Expenditures for Development and Improvement in Boston Harbor, 1859-1925, inclusive . . . . .	67
Houghs Neck Sea Wall, Quincy . . . . .	55
Pig Rock, Hull . . . . .	55
Point Allerton Sea Wall, Hull . . . . .	55
Stony Beach Sea Wall, Hull . . . . .	56
Cohasset Harbor . . . . .	57
Connecticut River . . . . .	57
Holyoke . . . . .	57
Conserving and Equalizing the Flow of Water in Rivers and Streams . . . . .	65
Contracts made and in force during year ending Nov. 30, 1925 . . . . .	76
Cotuit Shore Protection, Barnstable . . . . .	57
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1925, excepting Boston Harbor . . . . .	69
Expenditures and Contributions for River and Harbor Work, Dec. 1, 1924, to Nov. 30, 1925, excepting Boston Harbor . . . . .	68



Falmouth Heights Sea Walls . . . . .	58
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1925 . . . . .	74
Great Ponds . . . . .	62
Access to . . . . .	63
Glen Echo Lake, Stoughton . . . . .	63
Island Creek Pond, Duxbury . . . . .	63
Little Pond, Sherborn . . . . .	63
Long Pond, Blandford . . . . .	63
Green Hill, Hull . . . . .	58
Herring River, Wellfleet . . . . .	58
Licenses and Permits . . . . .	65
Manchester Harbor . . . . .	58
Menamsha Sea Wall . . . . .	58
Mitchells River, Chatham . . . . .	59
Namequoit River and Pleasant Bay, Orleans . . . . .	59
Nantucket Harbor . . . . .	59
New Bedford State Pier . . . . .	59
Oak Bluffs Sea Walls . . . . .	60
Plymouth Harbor . . . . .	60
Commonwealth Property at Plymouth . . . . .	60
Port of Boston Fund . . . . .	66
Province Lands . . . . .	64
Quansett Harbor, Orleans . . . . .	61
Receipts, 1925 . . . . .	66
Re-establishment of Certain Triangulation Stations . . . . .	65
Rivers, Harbors, Tide Waters and Foreshores, exclusive of Boston Harbor . . . . .	56
Scituate Harbor . . . . .	61
Special Reports to Legislature . . . . .	66
State Boundaries . . . . .	64
Topographical Map of Massachusetts, Boundary Atlases and Other Maps . . . . .	65
Victory Plant, Squantum . . . . .	56
Waquoit Bay, Falmouth and Mashpee . . . . .	61
West Falmouth Harbor, Falmouth . . . . .	61
Witchmere Harbor, Harwich . . . . .	62













The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

FOR THE

YEAR ENDING NOVEMBER 30, 1926







# The Commonwealth of Massachusetts

## DEPARTMENT OF PUBLIC WORKS.

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.*

Pursuant to the provisions of law the seventh annual report of the Department of Public Works for the fiscal year ending Nov. 30, 1926, is submitted.

The organization of the Department in two divisions is set forth in chapter 16, General Laws.

The personnel during the year ending Nov. 30, 1926, was as follows:—

Commissioner of Public Works, WILLIAM F. WILLIAMS.

### *Division of Highways.*

Associate Commissioner, JAMES W. SYNAN.<sup>1</sup>

Associate Commissioner, FRANK E. LYMAN.

### *Division of Waterways and Public Lands.*

Associate Commissioner, JESSE B. BAXTER.

Associate Commissioner, RICHARD K. HALE.

Executive Secretary for the Department, FREDERICK N. WALES.<sup>2</sup>

### *Division of Highways.*

Chief Engineer, ARTHUR W. DEAN.

Project Engineer, FRANKLIN C. PILLSBURY.

Construction Engineer, RAYMOND W. COBURN.

Maintenance Engineer, GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, D. H. DICKINSON,<sup>3</sup> — Essex and Suffolk Counties.

District No. 5, JAMES E. LAWRENCE,<sup>4</sup> — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

Recording Secretary for the Division, MARY A. RILEY.

Financial Secretary for the Division, FRED FAIR.

### *Division of Waterways and Public Lands.*

Senior Assistant Engineer for Boston Harbor, JOHN N. FERGUSON.

Senior Assistant Engineer for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Recording Secretary for the Division, EDNA F. TOWNSEND.

Financial Secretary for the Division, CORA I. ALLEN.

### *Registry of Motor Vehicles.*

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Chief Clerk, CHARLES R. GILLEY.

Chief of Inspection Force, ALBERT S. OLSSON.

<sup>1</sup> Died June 27, 1926.

<sup>2</sup> Retired Dec. 30, 1925.

<sup>3</sup> Resigned July 20, 1926.

<sup>4</sup> Appointed Nov. 1, 1926.



A detailed report is presented herewith, covering the activities for the year of the Division of Highways, the Division of Waterways and Public Lands, and the Registry of Motor Vehicles.

DEC. 1, 1926.

WILLIAM F. WILLIAMS,  
*Commissioner of Public Works.*

#### APPROPRIATIONS.

Chapter 79, Acts of 1926, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

#### *Requirements for Extinguishing the State Debt.*

##### Item

213. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million four hundred thirty-nine thousand fifty-seven dollars and forty-nine cents, payable from the following accounts and funds in the following amounts:— from receipts from loans for the abolition of grade crossings the sum of thirty-four thousand dollars; from receipts from loans for harbor improvements, the unexpended balance of such receipts; from the highway fund, the sum of six hundred twenty-two thousand fifty-seven dollars and fifty cents; from the balance of the receipts of the sale of the Boston dry dock, two hundred and fifty thousand dollars; and the remainder from the general fund . . . \$1,439,057 49

#### *Interest on the Public Debt.*

214. For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding one million three hundred and fifty thousand dollars, of which sum five hundred thirty-six thousand nine hundred ninety-one dollars and twenty-five cents shall be paid from the highway fund . . . 1,350,000 00

#### *Service of the Department of Banking and Insurance.*

##### Division of Insurance:

299. For expenses of the board of appeal created under section three of chapter three hundred and forty-six of the acts of nineteen hundred and twenty-five, a sum not exceeding twelve hundred dollars . . . 1,200 00

#### *Service of the Department of Public Works.*

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston Receipts:

588. For the salaries of the commissioner and the four associate commissioners, a sum not exceeding thirty-one thousand five hundred dollars . . . 31,500 00
589. For personal services of clerks and assistants to the commissioner, a sum not exceeding fourteen thousand three hundred dollars . . . 14,300 00
590. For traveling expenses of the commissioner, a sum not exceeding two thousand dollars . . . 2,000 00

Division of Highways (the following appropriations for the operation and maintenance of this division, except as otherwise provided, are made from the Highway Fund):

591. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding sixty-six thousand six hundred dollars . . . 66,600 00

## Item

592.	For traveling expenses of the associate commissioners, when traveling in the discharge of their official duties, a sum not exceeding twenty-five hundred dollars . . . . .	\$2,500 00
593.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding thirteen thousand dollars . . . . .	13,000 00
594.	For the care, repair and storage, replacement and purchase of road-building machinery and tools, a sum not exceeding one hundred eighty-five thousand dollars . . . .	185,000 00
595.	For the supervision of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars . . . . .	12,000 00
596.	For construction and repair of town and county ways, a sum not exceeding one million six hundred thousand dollars . . . . .	1,600,000 00
597.	For aiding towns in the repair and improvement of public ways, a sum not exceeding six hundred fifty thousand dollars . . . . .	650,000 00
598.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, a sum not exceeding five million seven hundred seventy thousand dollars . . . . .	5,770,000 00
599.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding fifty-two thousand five hundred dollars . . . . .	52,500 00 .
600.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars in addition to any other funds which the department of public works has available for the purpose . . . .	1,500,000 00
601.	For administering the law relative to advertising signs near highways, a sum not exceeding twelve thousand dollars, to be paid from the general fund . . . . .	12,000 00
601½.	For a deficit on account of nineteen hundred and twenty-three and nineteen hundred and twenty-four, incurred for personal services, the sum of thirty-three hundred twenty dollars and fifty-seven cents . . . . .	3,320 57 .
Registration of Motor Vehicles:		
602.	For personal services, a sum not exceeding five hundred ninety thousand dollars . . . . .	590,000 00
603.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment including telephone installation, and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding four hundred forty-five thousand dollars . . . . .	445,000 00
Special:		
604.	For the first instalment on the part of the commonwealth for the construction of the southern traffic artery, so-called, as authorized by chapter three hundred and thirty of the acts of nineteen hundred and twenty-five, a sum not exceeding two hundred sixty-five thousand dollars, to be paid from the Highway Fund . . . . .	265,000 00



## Item

## Division of Waterways and Public Lands:

605.	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand dollars . . . . .	\$50,000 00
606.	For necessary traveling expenses of the associate commissioners, a sum not exceeding one thousand dollars . . . . .	1,000 00
607.	For services other than personal, including printing of pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding five thousand dollars . . . . .	5,000 00
608.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .	5,000 00
609.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding twenty-five thousand dollars . . . . .	25,000 00
610.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding sixty thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes, provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations and individuals . . . . .	60,000 00
611.	For re-establishing and permanently marking certain triangulation points and stations, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, a sum not exceeding one thousand dollars . . . . .	1,000 00
612.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred five thousand dollars, to be paid from the port of Boston receipts . . . . .	105,000 00
613.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the port of Boston receipts . . . . .	8,000 00
614.	For the maintenance and improvement of commonwealth property under the control of the division, a sum not exceeding ninety-five thousand dollars, to be paid from the port of Boston receipts . . . . .	95,000 00
615.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding seventy-five hundred dollars . . . . .	7,500 00
616.	For the compensation of dumping inspectors, a sum not exceeding two thousand dollars . . . . .	2,000 00
617.	For expenses authorized by chapter four hundred and fifty-three of the acts of nineteen hundred and twenty-three,	

## Item

	relative to access to great ponds, a sum not exceeding one hundred dollars	\$100 00
618.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
	Specials:	
619.	For the construction of streets, railroads and piers, and for the development of land, at South Boston and East Boston, a sum not exceeding one hundred thousand dollars, to be paid from the port of Boston receipts	100,000 00
620.	For dredging channels and filling marshes, a sum not exceeding twenty-five thousand dollars, to be paid from the port of Boston receipts, and to be in addition to any amount heretofore appropriated for the purpose	25,000 00
621.	For improvements at Hayward's Creek, the sum of eight hundred eighty-five dollars and three cents, to be paid from the port of Boston receipts	885 03
622.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding nine thousand dollars	9,000 00

*Miscellaneous.*

The following items are to be paid from the Highway Fund:

643.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred twenty-one thousand five hundred dollars, representing the state's portion or one half of the estimated cost of maintenance	221,500 00
644.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing	50,000 00
645.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twenty-five thousand dollars, representing the state's portion or one half of the estimated cost	25,000 00
646.	For the construction of new roadway along Quincy Shore, with the approval of the metropolitan district commission, a sum not exceeding seventy thousand dollars, representing the state's portion or one half of the estimated cost	70,000 00
647.	For the second instalment on the part of the commonwealth for the construction of the northern traffic artery, so called, as authorized by chapter four hundred and eighty-nine of the acts of nineteen hundred and twenty-four, a sum not exceeding three hundred thousand dollars	300,000 00
648.	For the maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding seventy-seven hundred and fifty dollars	7,750 00
649.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, the sum of thirty-four hundred thirty-seven dollars and forty-one cents, representing the state's portion or one quarter of the total deficiencies	3,437 41



## DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Works.*

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, the sum of one hundred seventy-eight dollars and ninety-six cents . . . . . \$178 96

For the settlement of a claim arising from the taking of certain wharf property at Plymouth by the Pilgrim tercentenary commission, with the approval of the attorney general, a sum not exceeding ninety-four thousand six hundred and twenty-five dollars, of which sum ninety-three hundred seventy-four dollars and twenty-two cents shall be taken from an account known as the Income Pilgrim Coin Fund and the remainder from the General Fund . . . . . 94,625 00

*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

Item		
655.	For services and expenses of the division of metropolitan planning, as authorized by chapter three hundred and ninety-nine of the acts of nineteen hundred and twenty three, a sum not exceeding thirty thousand dollars . . . . .	30,000 00
657.	For maintenance of the Wellington bridge, a sum not exceeding twelve thousand dollars, the same to be in addition to the amount appropriated in item six hundred and forty-eight . . . . .	12,000 00
658.	For repaving Wellington bridge, a sum not exceeding eleven thousand two hundred and fifty dollars, the same to be in addition to the amount appropriated in items six hundred and forty-eight and six hundred and fifty-seven . . . . .	11,250 00
659.	For maintenance of boulevards and parkways, a sum not exceeding two hundred twenty-one thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and forty-three . . . . .	221,500 00
659½.	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and forty-four . . . . .	50,000 00
660.	For maintenance of boulevards and parkways, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, a sum not exceeding ten thousand three hundred twelve dollars and twenty-two cents, the same to be in addition to the amount appropriated in item six hundred and forty-nine, provided that sixty-eight hundred seventy-four dollars and eighty-one cents of this sum shall be assessed upon the cities of Boston and Quincy and the counties of Norfolk and Plymouth in accordance with the percentages fixed by section two of chapter two hundred and thirty-eight of the general Acts of nineteen hundred and nineteen . . . . .	10,312 22

661.	For maintenance of boulevards and parkways, for the installation of a certain lighting system, a sum not exceeding twenty-five thousand dollars, the same to be in addition to the amount appropriated in item six hundred and forty-five . . . . .	\$25,000 00
662.	For the construction of new roadway along Quincy Shore, with the approval of the Metropolitan district commission, a sum not exceeding seventy thousand dollars, the same to be in addition to the amount appropriated in item six hundred and forty-six . . . . .	70,000 00

Chapter 398, Acts of 1926, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is in part, as follows: —

*Unclassified Accounts and Claims.*

Payments for certain claims authorized by the following appropriations shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto:

Item		
230d.	For Amey F. Newcomb of Quincy, as authorized by chapter fourteen of the resolves of the present year, the sum of thirty-seven hundred twenty-five dollars and twenty-seven cents . . . . .	\$3,725 27
230g.	For Dorothy L. May of Medford, as authorized by chapter forty-one of the resolves of the present year, the sum of two hundred and fifty dollars, to be paid from the Highway Fund . . . . .	250 00

*Service of the Department of Banking and Insurance.*

299.	The expenditures authorized by item two hundred and ninety-nine of the general appropriation act of the present year shall be paid from the Highway Fund . . .
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*Service of the Department of Public Works.*

Division of Highways:

597.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one hundred and seventy thousand dollars, to be paid from the Highway Fund, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	170,000 00
Registration of Motor Vehicles:		
602.	For personal services, a sum not exceeding seven thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund . . . . .	7,000 00
603.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment including telephone installation, and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding eighty-eight hundred and fifty dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund . . . . .	8,850 00



## Item

## Special:

604. For the first instalment on the part of the commonwealth for the construction of the southern artery, so-called, as authorized by chapter three hundred and thirty of the acts of nineteen hundred and twenty-five, as amended by chapter three hundred and sixty-nine of the acts of present year, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund . . . . . \$35,000 00

*Division of Waterways and Public Lands.*

- 611a. For expenses of surveying certain town boundaries, by the division of waterways and public lands, a sum not exceeding two thousand dollars . . . . . 2,000 00
- 622a. For expenses of an investigation relative to the dredging of Town river in the city of Quincy, as authorized by chapter twenty-seven of the resolves of the present year, a sum not exceeding two thousand dollars . . . . . 2,000 00
- 622b. For the improvement of the Acushnet river, as authorized by chapter fifty-three of the resolves of the present year, a sum not exceeding two thousand dollars, to be assessed upon certain cities and towns . . . . . 2,000 00

*Miscellaneous.*

The following items are to be paid from the Highway Fund:

- 649a. For the expense of taking certain land in the town of Stoneham for the construction of a boulevard, as authorized by chapter three hundred and forty-eight of the acts of the present year, a sum not exceeding five thousand dollars, representing the state's portion or one half of the estimated cost of taking . . . . . 5,000 00
- 649b. For the expense of constructing Old Colony boulevard, so called, as authorized by chapter three hundred and sixty of the acts of the present year, a sum not exceeding one hundred twenty-five thousand dollars, representing the state's portion or one half of the estimated cost of construction, the same to be in addition to any appropriations heretofore made for the purpose . . . . . 125,000 00
- 649c. For the expense of laying out and constructing from North Harvard street to Western avenue in the city of Boston, the parkway or boulevard authorized by chapter three hundred and sixty-five of the acts of the present year, a sum not exceeding thirty-five thousand dollars, representing the state's portion or one half of the estimated cost of construction . . . . . 35,000 00
- 649d. For the expense of laying out and constructing a parkway or boulevard authorized by chapter three hundred and sixty-five of the acts of the present year, in connection with the reconstruction of Cottage Farm bridge, a sum not exceeding twenty-five thousand dollars, representing the state's portion or one half of the estimated cost of construction . . . . . 25,000 00

*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

Item	
659a.	For the expense of taking certain land in the town of Stoneham for the construction of a boulevard, as authorized by chapter three hundred and forty-eight of the acts of the present year, a sum not exceeding five thousand dollars, the same to be assessed upon the metropolitan parks district as a part of the cost of maintenance of boulevards and parkways
659b.	For the expense of constructing Old Colony boulevard, so-called, as authorized by chapter three hundred and sixty of the acts of the present year, a sum not exceeding one hundred twenty-five thousand dollars, the same to be assessed upon the metropolitan parks district as a part of the cost of maintenance of boulevards and parkways, and to be in addition to any appropriations heretofore made for the purpose
659c.	For the expense of laying out and constructing from North Harvard street to Western avenue in the city of Boston, the parkway or boulevard authorized by chapter three hundred and sixty-five of the acts of the present year, a sum not exceeding thirty-five thousand dollars, the same to be assessed upon the metropolitan parks district as a part of the cost of maintenance of boulevards and parkways
659d.	For the expense of laying out and constructing a parkway or boulevard authorized by chapter three hundred and sixty-five of the acts of the present year, in connection with the reconstruction of Cottage Farm bridge, a sum not exceeding twenty-five thousand dollars, the same to be assessed upon the metropolitan parks district as a part of the cost of maintenance of boulevards and parkways
The expenses authorized by items six hundred and forty-five and six hundred and sixty-one of the general appropriation act of the present year are to be in addition to any amount heretofore appropriated for the purpose.	
<i>Other Appropriations.</i>	
649e.	For laying out and for acquiring land for a section of the circumferential highway from the Newburyport turnpike in Saugus to the Lynn Fells parkway in Melrose and a section in the Hyde Park district of the city of Boston, as authorized by chapter three hundred and ninety-four of the acts of the present year, a sum not exceeding fifty-seven thousand five hundred dollars, representing the state's portion or one half of the estimated cost thereof, to be paid from the Highway Fund
659e.	For laying out and for acquiring land for a section of the circumferential highway from the Newburyport turnpike in Saugus to the Lynn Fells parkway in Melrose and a section in the Hyde Park district of the city of Boston, as authorized by chapter three hundred and ninety-four of the acts of the present year, a sum not exceeding fifty-seven thousand five hundred dollars, the same to be assessed upon the metropolitan parks district as a part of cost of maintenance of boulevards and parkways



## DIVISION OF HIGHWAYS.

## EXPENDITURES.

Summary of expenditures by the Division of Highways during the fiscal year ending Nov. 30, 1926: —

For construction of State highways, under chapter 81, General Laws, and chapter 79, Acts of 1926 . . . . .	\$1,944,276 74
For maintenance and repair of State highways, under section 13, chapter 81, General Laws, and chapter 79, Acts of 1926 . . . . .	5,850,670 79
For construction and repair of town and county ways, under section 34, chapter 90, General Laws, as amended, and chapter 79, Acts of 1926 . . . . .	1,590,191 26
For highways in the five western counties, under chapter 221, General Acts of 1915 and chapter 572, Acts of 1920 . . . . .	70,737 37
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws, as amended, and chapters 79 and 398, Acts of 1926 . . . . .	806,679 23
For the construction of a highway in the city of Revere, under chapter 501, Acts of 1922, as amended . . . . .	1 05
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925, and section 4, chapter 369 and chapter 398, Acts of 1926 . . . . .	45,060 29
For administering the law relative to advertising signs near highways, under chapter 79, Acts of 1926 . . . . .	4,729 11
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912, and chapter 79, Acts of 1926 . . . . .	13,231 58
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street in Fall River, under chapter 717, Acts of 1912, and chapter 79, Acts of 1926 . . . . .	17,511 41
For the care, repair and storage, replacement and purchase of road building machinery and tools, under chapter 79, Acts of 1926 . . . . .	138,788 46
For the suppression of gypsy and brown-tail moths on State highways, under chapter 79, Acts of 1926 . . . . .	11,784 53
For general expenses, under chapter 79, Acts of 1926 . . . . .	78,711 18
For a deficit incurred for personal services under chapter 79, Acts of 1926 . . . . .	3,320 57
Total . . . . .	\$10,575,693 57

## CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES.

The Division has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$2,489,636.70 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Division.

## PETITIONS, MEETINGS AND HEARINGS.

In addition to the regular weekly meetings of the Division throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the relocation of street railway tracks

in Agawam, Athol, Braintree, Hadley, Holliston, Holyoke, Methuen, Somerville, West Bridgewater, West Springfield and Weymouth; on petitions for the amendment or revision of permits for the operation of bus lines in 23 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 64 cases; and on the matter of outdoor advertising.

Petitions were received and contracts signed during the year, as follows:—

	Petitions.	Contracts.
State highways . . . . .	19	50
Work under section 34, chapter 90, General Laws, as amended	81	259
Work under section 26, chapter 81, General Laws, as amended	161	158
Work under Special Acts . . . . .		4
Totals . . . . .	261	471

GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK DURING THE YEAR.

*State Highways.* — During the year ending Nov. 30, 1926, the Division completed construction on 19.748 miles of State highway, portions of which were laid out in 1925. Construction was commenced, but not completed, on about 8 miles of road in 6 cities and towns. Layouts were made of 28.956 miles of State highway in 24 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 12.262 miles of State highway were discontinued. The total length of State highways at the end of the year was 1,564.582 miles.

*Surveys, Plans and Estimates.* — During the year preliminary surveys, plans and estimates were made as follows: —

*For State highway construction.* — Preliminary surveys in 36 towns, 65.414 miles; plans in 34 towns, 62.283 miles; preliminary estimates in 17 towns, 28.843 miles; lines and grades in 15 towns, 25.604 miles; and final surveys and estimates in 14 towns 21.291 miles.

*For State highway, reconstruction and resurfacing.* — Preliminary surveys in 64 towns, 126.466 miles; plans in 58 towns, 85.026 miles; preliminary estimates in 53 towns, 90.506 miles; lines and grades in 42 towns, 69.026 miles; final surveys and estimates in 26 towns, 41.543 miles.

Under section 34, chapter 90, General Laws, as amended: — Preliminary surveys in 186 towns, 152.648 miles; plans in 155 towns, 131.968 miles; preliminary estimates in 82 towns, 72.403 miles; lines and grades in 188 towns, 139.932 miles; final surveys and estimates in 40 towns, 31.206 miles.

Under chapter 221, General Acts of 1915, as amended. — Preliminary estimates in 2 towns, 2.010 miles.

Under chapter 330, Acts of 1925, as amended by chapter 369, Acts of 1926. — Lines and grades in 2 cities, 0.947 miles; preliminary estimates in 2 cities, 4.829 miles.

*For roads to be constructed by towns.* — Preliminary surveys in 6 towns, 1.009 miles; plans in 4 towns, 0.816 miles. Preliminary estimates in 2 towns, 0.683 miles; lines and grades in 1 town, 0.075 miles; final survey and estimates in 1 town, 0.047 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 12 towns.

*Roads constructed in 1926.* — Construction has been completed on 19.748 miles of State highway; 115.925 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended; and 3.174 miles of highways under the provisions of special acts; making a total of 138.847 miles completed during the year.

Of the above roads completed this year, 44.781 miles were of gravel; 12.739 miles were of bituminous concrete; 57.146 miles were of bituminous macadam; 10.380 miles were of reinforced concrete; 12.191 miles were of gravel with a bituminous treatment; and 1.610 miles were of earth.



*Resurfacing, Reconstruction and Widening.* — During the year 0.644 miles of State highway were widened but not resurfaced; and 83.641 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 54.719 miles were of bituminous macadam; 10.222 miles were of bituminous concrete; 17.577 miles were of reinforced concrete; 0.341 miles were of gravel; 0.379 miles were of gravel with a bituminous surface treatment; and 0.403 miles were of granite block.

*Permits.* — There were 2,479 permits issued during the year for opening or occupying State highways for various purposes.

*Tree Planting and Roadside Development.* — During the last twenty-two years 52,368 trees have been planted on the borders of State highways, of which 2,708 were planted this year, the Division continuing its policy of planting quick-growing trees and hedges to replace guard rails.

*Engineering Advice to Municipal Authorities.* — The Division furnished, without charge, engineering advice to 20 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.* — The Division approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of 82 roads in 31 towns and cities.

*Approval of Bridge Plans.* — The Division approved during the year, under the provisions of chapter 85, General Laws, as amended by chapter 313, Acts of 1923, plans for the construction of 21 bridges in 19 towns and cities.

#### STATE HIGHWAYS.

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

COUNTY COMMISSIONERS OF PLYMOUTH COUNTY. — Road in Middleborough, locally known as Wareham Street, extending from a point near the property of Chester Thomas to a point near the Methodist Church property, and again extending from a point near the property of Oskar Lahti to a point near the property of William Shaw. Received Feb. 4, 1926.

SELECTMEN OF SOMERSET. — Road extending from the junction of Brayton Avenue and Bridge Street, over a new location, to the dividing line between the towns of Somerset and Swansea. Received Mar. 18, 1926.

SELECTMEN OF SWANSEA. — Road extending from a point on Fall River Avenue, near the property of Frederick I. Gardner, over a new location, to the dividing line between the towns of Swansea and Somerset. Received Mar. 25, 1926.

SELECTMEN OF MONSON. — Road locally known as Main Street, extending from the junction of Main Street and King Avenue to the dividing line between the Commonwealth of Massachusetts and the State of Connecticut. Received Mar. 27, 1926.

SELECTMEN OF DEERFIELD. — Road extending from a point on the existing State highway about 6,500 feet distant southerly from the bridge over the Deerfield River at Cheapside, over a new location, to a point near where the existing State highway crosses the tracks of the New York, New Haven and Hartford Railroad. Received Mar. 31, 1926.

SELECTMEN OF COLRAIN. — Road extending from the existing State highway near Griswoldville to the dividing line between the Commonwealth of Massachusetts and the State of Vermont. Received May 6, 1926.

SELECTMEN OF CONWAY. — Road extending from a point about 600 feet west-

erly of the Town Hall to the dividing line between the towns of Conway and Ashfield. Received May 15, 1926.

SELECTMEN OF BERNARDSTON. — Road locally known as Burke Street, extending from a point near Church Street to a point near the property of Milton A. Morrell, and again extending from a point near the property of the Connecticut River Railroad to a point near the property of R. H. Cushman. Received June 2, 1926.

SELECTMEN OF LEE. — Road locally known as the Lenox Road, extending from a point about 1,600 feet southerly of the dividing line between the towns of Lenox and Lee to the dividing line between the towns of Lee and Stockbridge. Received July 7, 1926.

SELECTMEN OF STOCKBRIDGE. — Road locally known as the Lenox Road, extending from the dividing line between the towns of Lee and Stockbridge southwesterly for a distance of about 1,900 feet. Received July 3, 1926.

SELECTMEN OF MARSHFIELD. — Road extending from the junction of Main and Summer Streets at Stoddard's Corner to a point near the junction of Main and Ferry Streets. Received July 22, 1926.

SELECTMEN OF MASHPEE. — Road locally known as the Indian Neck Road, extending from the Cotuit Road at Mashpee River to the dividing line between the towns of Mashpee and Barnstable. Received July 26, 1926.

SELECTMEN OF BARNSTABLE. — Road locally known as the Indian Neck Road, extending from Campbell's Corner to the dividing line between the towns of Barnstable and Mashpee. Received Aug. 14, 1926.

SELECTMEN OF SEEKONK. — Road locally known as Mink and School Streets, extending from Fall River Avenue to the dividing line between the Commonwealth of Massachusetts and the State of Rhode Island. Received Aug. 18, 1926.

MAYOR AND BOARD OF ALDERMEN OF WORCESTER. — Road locally known as Pleasant Street, extending from the dividing line between the town of Paxton and the city of Worcester to a point where Pleasant Street crosses Tatnuck Brook. Received Sept. 2, 1926.

SELECTMEN OF LITTLETON. — Road locally known as the Lowell-Littleton Road, extending from Littleton Depot to the dividing line between the towns of Littleton and Harvard. Received Sept. 28, 1926.

SELECTMEN OF MONSON. — Road locally known as the Palmer Lower Road, extending from the corner of Main and Mill Streets to the approach to Fay Bridge (excluding about a mile of existing State highway). Received Oct. 16, 1926.

SELECTMEN OF ORLEANS. — Road extending from the existing State highway in South Orleans to the existing State highway near the dividing line between the towns of Orleans and Eastham; also a section of road and bridge in South Orleans 100 feet in length. Received Nov. 3, 1926.

SELECTMEN OF HOLLISTON. — Road extending from a point near the junction of Washington and Summer Streets northeasterly, over a new location, about 1,600 feet. Received Nov. 17, 1926.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS.

(Chapter 81, General Laws, as amended.)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

##### *Ayer-Littleton.*

Dec. 22, 1925, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 671 feet of State highway on King Street in Ayer and about 5,729 feet of State highway on King Street in Littleton, the surface consisting of bituminous macadam. The proposal amounted to \$41,515.75. Work completed July 20, 1926. Expenditure during 1926, \$41,065.03.

##### *Yarmouth.*

Dec. 22, 1925, contract made with the Lane Construction Corporation, of Meriden, Conn., for resurfacing about 14,056 feet of State highway on Hallett



Street, the surface consisting of bituminous concrete. The proposal amounted to \$46,765.50. Work completed July 20, 1926. Expenditure during 1926, \$44,164.35.

*Dennis.*

Dec. 22, 1925, contract made with the Lane Construction Corporation, of Meriden, Conn., for resurfacing about 21,521 feet of State highway on Hallett Street, the surface consisting of bituminous concrete. The proposal amounted to \$68,818. Work completed July 20, 1926. Expenditure during 1926, \$77,-899.23.

*Bedford-Lexington.*

Dec. 29, 1925, contract made with James H. Fannon, of Somerville, for reconstructing about 5,694 feet of State highway on Main Street in Bedford and about 4,460 feet of State highway on Bedford Street in Lexington, the surface consisting of bituminous macadam. The proposal amounted to \$56,903.40. Work completed July 27, 1926. Expenditure during 1926, \$60,307.63.

*Chatham.*

Dec. 29, 1925, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Conn., for resurfacing about 15,400 feet of State highway on Depot Street and the Harwich Road, the surface consisting of bituminous concrete. The proposal amounted to \$47,447. Work completed Aug. 17, 1926. Expenditure during 1926, \$54,791.26.

*Brockton-West Bridgewater.*

Jan. 5, 1926, contract made with Carlo Bianchi & Company, Inc., of Framingham, for reconstructing about 3,496 feet of State highway on Main Street in Brockton and about 16,690 feet of State highway in West Bridgewater, the surface in Brockton and about 9,000 feet in West Bridgewater consisting of reinforced concrete; the balance of the surface in West Bridgewater consisting of bituminous macadam. The proposal amounted to \$199,891.45. Work completed Oct. 19, 1926. Expenditure during 1926, \$230,054.18.

*Lenox-Lee-Stockbridge.*

Jan. 12, 1926, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 11,615 feet of State highway on Kemble Street in Lenox, 5,383 feet of State highway on the Stockbridge Road in Lee and about 11,839 feet of State highway on the Lenox Road in Stockbridge, the surface consisting of reinforced cement concrete except for about 1,100 feet of bituminous macadam in Lenox. The proposal amounted to \$323,697.50. Work completed Nov. 30, 1926. Expenditure during 1926, \$267,-271.64.

*Amherst.*

April 27, 1926, contract made with Philip Keating, of Fitchburg, for constructing two bridges and the approaches on about 750 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$16,996.50. Work completed Aug. 24, 1926. Expenditure during 1926, \$17,-030.40.

*Revere-Saugus.*

April 27, 1926, contract made with M. McDonough Company, of Swampscott, for resurfacing about 3,535 feet of State highway on Broadway in Revere and about 8,697 feet of State highway on the Salem turnpike in Saugus, the surface consisting of bituminous macadam. The proposal amounted to \$132,459. Work completed Oct. 5, 1926. Expenditure during 1926, \$160,160.05

*Monson.*

April 27, 1926, contract made with the New Haven Road Construction Company, of New Haven, Conn., for constructing about 21,566 feet of State high-

way on the Stafford Road, the surface consisting of bituminous macadam. The proposal amounted to \$159,223.95. Work completed Nov. 9, 1926. Expenditure during 1926, \$143,268.53.

*Northfield.*

April 27, 1926, contract made with Kelleher Corporation, of Montague, for constructing about 10,700 feet of State highway on the Northfield Farms Road, the surface consisting of bituminous macadam. The proposal amounted to \$77,146.50. Work completed Aug. 17, 1926. Expenditure during 1926, \$81,722.80.

*Agawam.*

May 4, 1926, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 5,284 feet of State highway on River Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$72,031.50. Work completed Aug. 31, 1926. Expenditure during 1926, \$73,934.91.

*Bernardston.*

May 4, 1926, contract made with the New Haven Road Construction Company, Inc., of New Haven, Conn., for reconstructing about 24,123 feet of State highway on Burk Street, the surface consisting of bituminous macadam. The proposal amounted to \$152,283. Work completed Nov. 3, 1926. Expenditure during 1926, \$133,492.22.

*Bridgewater.*

May 4, 1926, contract made with Powers Brothers, of Brockton, for reconstructing a bridge and approaches on about 600 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$30,259.50. Work completed Nov. 30, 1926. Expenditure during 1926, \$26,674.75.

*Sharon.*

May 11, 1926, contract made with Charles E. Horne, of Millbury, for reconstructing about 3,340 feet of State highway on South Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$21,900.70. Work completed June 29, 1926. Expenditure during 1926, \$21,828.30.

*Somerset-Swansea.*

May 11, 1926, contract made with Luke H. Callan, of Bristol, R. I., for constructing and reconstructing about 9,745 feet of State highway in Somerset and about 8,752 feet of State highway in Swansea, the surface consisting of reinforced cement concrete. The proposal amounted to \$276,792.15. Work completed Nov. 30, 1926. Expenditure during 1926, \$252,244.79.

*Athol.*

May 26, 1926, contract made with Kelleher Corporation, of Montague, for reconstructing about 8,429 feet of State highway on South Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$97,234.50. Work completed Nov. 9, 1926. Expenditure during 1926, \$81,674.19.

*North Adams.*

June 1, 1926, contract made with the Standard Engineering & Contracting Company, of Toledo, Ohio, for repairing the bridge over Hoosic River on the State highway leading to Williamstown. Work completed June 15, 1926. Expenditure during 1926, \$2,864.

*Hingham-Weymouth.*

June 4, 1926, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 9,394 feet of State highway on Bridge Street in Weymouth and about 13,654 feet of State highway on Lincoln Street, Broad Cove Road and Otis Street in Hingham, the surface consisting of bituminous macadam. Work about completed. Expenditure during 1926, \$304,665.71.



*Plainville.*

June 8, 1926, contract made with Frank B. Manning, of Fall River, for reconstructing about 3,410 feet of State highway on South Street, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$39,111. Work completed Sept. 21, 1926. Expenditure during 1926, \$45,318.93.

*Paxton-Worcester.*

June 8, 1926, contract made with D'Onfro Brothers, Inc., of Leominster, for reconstructing about 18,948 feet of State highway on the Worcester Road in Paxton and about 7,086 feet of State highway on Pleasant Street in Worcester, the surface consisting of bituminous macadam. The proposal amounted to \$240,044.20. Work practically completed. Expenditure during 1926, \$210,053.08.

*Westminster-Winchendon.*

June 8, 1926, contract made with A. W. Loud, of Quincy, for constructing four bridges and approaches on about 3,964 feet of State highway in Westminster and Winchendon, the surface consisting of gravel. The proposal amounted to \$61,058. Work completed Nov. 30, 1926. Expenditure during 1926, \$48,228.38.

*Goshen-Williamsburg.*

June 8, 1926, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 12,965 feet of State highway on the Northhampton Road in Goshen and about 13,705 feet of State highway on the same road in Williamsburg, the surfacing consisting of bituminous macadam. The proposal amounted to \$261,710.50. Work practically completed. Expenditure during 1926, \$194,744.03.

*Chelmsford-Westford.*

June 15, 1926, contract made with Antonio Pallatto, of Dracut, for reconstructing about 8,112 feet of State highway on the Littleton Road in Chelmsford and about 14,049 feet of State highway on the same road in Westford, the surface consisting of bituminous macadam. The proposal amounted to \$175,923.50. Work completed Nov. 30, 1926. Expenditure during 1926, \$148,305.05.

*Methuen.*

June 15, 1926, contract made with Patrick J. Holland, of Lawrence, for reconstructing about 10,116 feet of State highway on River Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$91,822.70. Work completed Sept. 21, 1926. Expenditure during 1926, \$96,984.63.

*Dartmouth.*

June 15, 1926, contract made with Greany & Sherry, of Fall River, for constructing and reconstructing about 15,300 feet of State highway on the Fall River Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$279,366.60. Work completed Nov. 30, 1926. Expenditure during 1926, \$253,592.67.

*New Ashford.*

June 15, 1926, contract made with Carl B. Lindholm, of Pittsfield, for constructing about 699 feet of State highway, the surface consisting of gravel. The proposal amounted to \$6,766.50. Work completed Aug. 3, 1926. Expenditure during 1926, \$6,805.90.

*Conway.*

June 15, 1926, contract made with P. J. Kennedy & Company, Inc., of Holyoke, for constructing two bridges and approaches on about 1,350 feet of

State highway, the surface consisting of gravel. The proposal amounted to \$46,529. Work completed Nov. 3, 1926. Expenditure during 1926, \$38,244.18.

*Holliston.*

June 29, 1926, contract made with Cenedella & Company, of Milford, for reconstructing about 17,506 feet of State highway on Washington Street, the surface consisting of bituminous macadam. The proposal amounted to \$122,299.40. Work completed Nov. 30, 1926. Expenditure during 1926, \$107,374.86.

*Amesbury-Merrimac.*

July 6, 1926, contract made with Powers Brothers, of Brockton, for reconstructing about 11,842 feet of State highway on the Haverhill Road in Amesbury and about 6,365 feet of State highway on Main Street in Merrimac, the surface consisting of reinforced cement concrete. The proposal amounted to \$200,087.30. Work completed Nov. 30, 1926. Expenditure during 1926, \$177,012.30.

*Lexington.*

July 13, 1926, contract made with Perini & Ampollini, of Plainville, for constructing about 3,646 feet of State highway on Bedford Street, the surface consisting of bituminous macadam. The proposal amounted to \$32,377.50. Work completed Oct. 26, 1926. Expenditure during 1926, \$35,806.

*Cheshire.*

July 20, 1926, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 23,114 feet of State highway on the Pittsfield-Adams Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$257,436.60. Work about one-half completed. Expenditure during 1926, \$120,623.16.

*Leominster-Sterling.*

July 27, 1926, contract made with G. Rosse & Son, of Leominster, for reconstructing about 2,941 feet of State highway on the Leominster Road in Sterling and about 11,500 feet of State highway on Central Street in Leominster, the surface consisting of bituminous macadam. The proposal amounted to \$108,005.45. Work about one-half completed. Expenditure during 1926, \$45,957.

*Hinsdale.*

July 27, 1926, contract made with the Richmond Foundation Company, of Pittsfield, for constructing about 4,801 feet of State highway on South Street, the surface consisting of bituminous macadam on 4,531 feet and gravel on 297 feet. The proposal amounted to \$82,883.30. Work about one-half completed. Expenditure during 1926, \$47,695.34.

*North Attleborough.*

Aug. 3, 1926, contract made with the Hudson Construction & Supply Company, Inc., of Providence, R. I., for reconstructing about 4,956 feet of State highway on Washington Street, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$62,884.55. Work practically completed. Expenditure during 1926, \$78,910.60.

*Winchendon.*

Aug. 3, 1926, contract made with P. J. Keating Company, of Fitchburg, for reconstructing about 12,992 feet of State highway on the Winchendon Road, the surface consisting of bituminous macadam. The proposal amounted to \$122,093.10. Work about one-third completed. Expenditure during 1926, \$43,543.48.

*Newburyport.*

Aug. 3, 1926, contract made with Cashman Brothers Company, of Newburyport, for furnishing and placing rip-rap at the southerly abutment to the



bridge over the Merrimack River on the State highway leading to Salisbury. The proposal amounted to \$1,601.25. Work completed Sept. 21, 1926. Expenditure during 1926, \$1,770.17.

*Lynn.*

Aug. 10, 1926, contract made with the Cement-Gun Company, Inc., of Allentown, Pa., for repairing a culvert on the State highway about 2,550 feet northerly of the northerly abutment of the Saugus River Bridge. Work completed Sept. 14, 1926. Expenditure during 1926, \$1,000.

*East Brookfield.*

Aug. 17, 1926, contract made with the Engineering Service & Construction Company, of Boston, for constructing a bridge and approaches on about 620 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$19,175. Work practically completed. Expenditure during 1926, \$14,846.87.

*Lynn.*

Aug. 17, 1926, contract made with the M. McDonough Company, of Swampscott, for reconstructing the granite block pavement on about 2,100 feet of the State highway on Western Avenue. The proposal amounted to \$22,630. Work completed Nov. 30, 1926. Expenditure during 1926, \$20,722.84.

*Harwich.*

Aug. 24, 1926, contract made with Washburn & Sheridan Construction Company, of Taunton, for constructing about 2,517 feet of State highway on the County Road, the surface consisting of bituminous concrete. The proposal amounted to \$15,995. Work completed Nov. 9, 1926. Expenditure during 1926, \$13,923.13.

*Seekonk.*

Aug. 31, 1926, contract made with the Lane Construction Corporation, of Meriden, Conn., for constructing about 2,231 feet of State highway on Mink Street and about 2,879 feet of State highway on School Street, the surface consisting of bituminous macadam. The proposal amounted to \$40,735.25. Work about one-half completed. Expenditure during 1926, \$18,026.37.

*Hingham.*

Sept. 14, 1926, contract made with the Cement-Gun Company, Inc., of Allentown, Pa., for repairing two bridges on the State highway at the head of Hingham Harbor. Work completed Oct. 26, 1926. Expenditure during 1926, \$2,302.50.

*Williamstown.*

Sept. 14, 1926, contract made with the Richard Hopkins Company of Albany, N. Y., for grading, drainage and sub-base on about 23,090 feet of State highway (20,500 feet on the Petersburg Mountain Road and 2,150 feet on the Cold Springs Road). The proposal amounted to \$299,487.50. Work about one-sixth completed. Expenditure during 1926, \$48,559.65.

*Barnstable-Mashpee.*

Sept. 21, 1926, contract made with William A. Jones and Herbert L. Thomas, of Barnstable, for constructing about 3,171 feet of State highway on the Falmouth Road in Barnstable and about 9,938 feet of State highway on the same road in Mashpee, the surface consisting of bituminous concrete. The proposal amounted to \$67,898. Work about one-third completed. Expenditure during 1926, \$24,150.61.

*North Attleborough.*

Sept. 28, 1926, contract made with the Hudson Construction Company, of Providence, R. I., for reconstructing about 1,282 feet of State highway, the

surface consisting of reinforced cement concrete with bituminous macadam shoulders. Work practically completed. Expenditure during 1926, \$78,910.60.

*Sandwich.*

Oct. 13, 1926, contract made with Powers Brothers, of Brockton, for reconstructing a bridge and approaches on about 1,150 feet of State highway, the surface consisting of bituminous concrete. The proposal amounted to \$49,648. Work about one-tenth completed. Expenditure during 1926, \$5,129.75.

*Medford.*

Nov. 9, 1926, contract made with the Greenough Construction Company, of Acton, for widening about 3,100 feet of State highway on Mystic Avenue. The proposal amounted to \$8,450. Work not commenced.

*Marshfield.*

Nov. 16, 1926, contract made with Michael F. Roach, of East Bridgewater, for constructing and reconstructing about 25,175 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$213,466.58. Work not commenced.

*Williamstown.*

Nov. 30, 1926, contract made with the Town of Williamstown for reconstructing about 700 feet of the State highway on the River Road, the surface consisting of bituminous macadam. Work not commenced.

The expenditures for the construction of State highways in various counties during the year were:

Barnstable, \$46,986.11	Hampshire, \$5,043.69
Berkshire, \$233,231.65	Middlesex, \$56,632.00
Bristol, \$955,578.91	Norfolk, \$74,212.69
Essex, \$10,082.08	Plymouth, \$2,335.18
Franklin, \$201,676.32	Worcester, \$162,499.83
Hampden, \$195,998.28	Total, \$1,944,276.74

Details of the foregoing expenditures follow:—

*Barnstable County.* — Barnstable, \$10,260.44; Harwich, \$17,254.34; Mashpee, \$19,471.33.

*Berkshire County.* — Dalton, \$30,518.12; Hinsdale, \$64,700.28; Lee, \$33,208.94; New Ashford, \$8,368.26; Sandisfield, \$11,812.71; Williamstown, \$84,623.34.

*Bristol County.* — Dartmouth, \$241,918.69; Rehoboth, \$125,147.50; Seekonk, \$80,796.56; Somerset, \$210,938.72; Swansea, \$284,409.65; Taunton, \$12,367.79.

*Essex County.* — Haverhill, \$5,296.77; Lawrence, \$842.08; North Andover, \$1,543.23; Rowley, \$2,400.

*Franklin County.* — Conway, \$88,418.32; Northfield, \$113,258.

*Hampden County.* — Agawam, \$4.20; Monson, \$181,428.90; Russell, \$4,320; Toland, \$10,245.18.

*Hampshire County.* — Easthampton, \$4,984.63; Huntington, \$59.06.

*Middlesex County.* — Lexington, \$36,688.63; Littleton, \$3,241.46; Westford, \$16,701.91.

*Norfolk County.* — Wrentham, \$74,212.69.

*Plymouth County.* — Marshfield, \$175.18; Wareham, \$2,160.

*Worcester County.* — Brookfield, \$7,848.75; East Brookfield, \$18,427.84; Sturbridge, \$76,457.26; Westminster, \$34,039.93; Winchendon, \$25,726.05.



## MAINTENANCE AND REPAIR OF STATE HIGHWAYS.

(Section 13, chapter 81, General Laws, and chapter 79, Acts of 1926.)

The expenditures during the year in various counties were: —

Barnstable, \$331,449.68	Hampshire, \$354,382.44
Berkshire, \$676,302.25	Middlesex, \$577,394.49
Bristol, \$460,659.18	Nantucket, \$474.80
Dukes, \$10,392.44	Norfolk, \$462,793.01
Essex, \$696,799.44	Plymouth, \$929,900.65
Franklin, \$275,355.83	Suffolk, \$85,802.21
Hampden, \$189,069.11	Worcester, \$799,895.26
	Total, \$5,850,670.79

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$21,957.96; Bourne, \$10,731.89; Brewster, \$6,900.93; Chatham, \$69,203.21; Dennis, \$95,608.86; Eastham, \$1,389.40; Falmouth, \$11,710.60; Harwich, \$8,838.78; Mashpee, \$4,024.61; Orleans, \$12,263.26; Provincetown, \$4,508.86; Sandwich, \$23,076.94; Truro, \$2,809.55; Wellfleet, \$1,671.54; Yarmouth, \$56,753.29.

*Berkshire County.* — Adams, \$2,836.52; Becket, \$16,001.16; Cheshire, \$152,200.71; Clarksburg, \$4,694.76; Dalton, \$13,847.30; Egremont, \$3,971.78; Florida, \$14,948.77; Great Barrington, \$6,466.23; Hancock, \$2,198.53; Hinsdale, \$11,516.79; Lanesborough, \$7,708.03; Lee, \$85,413.50; Lenox, \$162,149.94; New Ashford, \$5,169.43; New Marlborough, \$196.82; North Adams, \$10,710; Otis, \$221.35; Pittsfield, \$9,801.91; Richmond, \$7,538.71; Sandisfield, \$685.78; Savoy, \$3,109.62; Sheffield, \$8,160.05; Stockbridge, \$129,249.87; Washington, \$1,439.09; Williamstown, \$11,961.67; Windsor, \$4,103.93.

*Bristol County.* — Acushnet, \$3,742.82; Attleboro, \$3,021.22; Berkley, \$2,111.29; Dartmouth, \$120,622.77; Dighton, \$5,614; Easton, \$5,631.40; Fairhaven, \$26,789.63; Fall River, \$131.62; Freetown, \$6,303.81; Mansfield, \$1,562.55; North Attleborough, \$99,061.77; Norton, \$8,620.13; Raynham, \$9,211.23; Rehoboth, \$6,024.65; Seekonk, \$7,357.55; Somerset, \$46,837.94; Swansea, \$75,813.33; Taunton, \$22,174.53; Westport, \$10,026.94.

*Dukes County.* — Chilmark, \$1,317.92; Edgartown, \$1,612.42; Gay Head, \$528.58; Oak Bluffs, \$3,925.83; Tisbury, \$1,768.59; West Tisbury, \$1,239.10.

*Essex County.* — Amesbury, \$148,974.67; Andover, \$3,919.62; Beverly, \$7,314.55; Danvers, \$4,306.12; Essex, \$1,034.84; Gloucester, \$2,862.03; Groveland, \$2,126.12; Hamilton, \$4,388.24; Haverhill, \$44,615.09; Ipswich, \$4,994.85; Lawrence, \$1,700.59; Lynn, \$31,147.97; Lynnfield, \$2,048.59; Merrimac, \$80,400.76; Methuen, \$124,250.45; Middleton, \$3,867.70; Newbury, \$13,023.77; Newburyport, \$2,418.69; North Andover, \$11,896.70; Peabody, \$2,271.44; Rockport, \$777.82; Rowley, \$5,348.95; Salem, \$3,979.90; Salisbury, \$9,209.27; Saugus, \$165,856.57; Swampscott, \$1,480.79; Topsfield, \$4,720.26; Wenham, \$1,342.01; West Newbury, \$6,521.08.

*Franklin County.* — Ashfield, \$2,182.14; Bernardston, \$166,314.02; Buckland, \$3,775.19; Charlemont, \$17,511.88; Colrain, \$1,999.07; Conway, \$3,177.71; Deerfield, \$14,461.34; Erving, \$11,166.80; Gill, \$50.73; Greenfield, \$12,821.60; Montague, \$5,259.06; Northfield, \$8,456.98; Orange, \$17,928.39; Shelburne, \$4,890.32; Sunderland, \$3,153.83; Whately, \$2,206.77.

*Hampden County.* — Agawam, \$91,167.14; Blandford, \$8,806.38; Brimfield, \$4,150.64; Chester, \$9,841.96; Chicopee, \$14,238.24; East Longmeadow, \$3,025.57; Holyoke, \$3,874.27; Monson, \$1,534.98; Palmer, \$13,357.75; Russell, \$16,097.35; Southwick, \$1,284.42; Tolland, \$213.64; Wales, \$3,435.59; West Springfield, \$5,777.29; Westfield, \$7,826.70; Wilbraham, \$4,437.19.

*Hampshire County.* — Amherst, \$24,357.38; Belchertown, \$3,612.18; Cummington, \$36,170.52; Easthampton, \$2,344.88; Goshen, \$112,025.74; Granby, \$7,431.88; Hadley, \$2,788.57; Hatfield, \$2,317.04; Huntington, \$9,532.52; Northampton, \$9,435.76; South Hadley, \$9,908.40; Southampton, \$5,806.75; Ware, \$7,291.99; Williamsburg, \$121,358.83.

*Middlesex County.* — Acton, \$3,970.24; Arlington, \$1,438.57; Ashby, \$7,-845.26; Ashland, \$1,052.84; Ayer, \$10,773.28; Bedford, \$43,745.18; Billerica, \$12,771.50; Boxborough, \$2,167.37; Burlington, \$4,345.99; Chelmsford, \$69,-750.03; Concord, \$4,632.34; Dracut, \$3,348.39; Framingham, \$4,265.91; Groton, \$2,535.43; Holliston, \$134,475.80; Hudson, \$1,632.11; Lexington, \$31,348.39; Lincoln, \$2,112; Littleton, \$45,548.33; Lowell, \$2,081.03; Malden, \$147.31; Marlborough, \$9,222.83; Medford, \$542.41; Melrose, \$704.99; Natick, \$7,179.09; Newton, \$297.07; North Reading, \$1,140.95; Pepperell, \$3,741.72; Reading, \$2,857.74; Shirley, \$1,490.19; Somerville, \$581.10; Stoneham, \$1,368.27; Sudbury, \$3,704.08; Tewksbury, \$2,159.81; Townsend, \$5,242.16; Tyngsborough, \$3,793.14; Waltham, \$748.05; Watertown, \$697.59; Wayland, \$3,098.53; Westford, \$118,183.06; Weston, \$4,650.54; Wilmington, \$3,931.14; Winchester, \$2,-522.77; Woburn, \$9,449.96.

*Nantucket County.* — Nantucket, \$474.80.

*Norfolk County.* — Avon, \$1,079.79; Bellingham, \$5,295.61; Braintree, \$9,-368.66; Canton, \$58,256.01; Cohasset, \$7,050.68; Dedham, \$1,468.81; Dover, \$1,499.42; Foxborough, \$3,386.35; Franklin, \$4,613.29; Holbrook, \$1,741.88; Milton, \$4,798.01; Needham, \$1,677.93; Norfolk, \$467.54; Norwood, \$2,032.68; Plainville, \$82,369.48; Quincy, \$3,882.06; Randolph, \$2,367.32; Sharon, \$26,-263.41; Stoughton, \$21,103.20; Walpole, \$2,829.63; Wellesley, \$462.74; Westwood, \$1,233.53; Weymouth, \$191,255.57; Wrentham, \$28,289.41.

*Plymouth County.* — Abington, \$4,267.07; Bridgewater, \$37,392.60; Brockton, \$42,090.38; Duxbury, \$5,305.87; East Bridgewater, \$6,277.63; Hanover, \$2,776.89; Hingham, \$206,849.14; Kingston, \$3,618.09; Lakeville, \$9,942.61; Marion, \$9,853.15; Marshfield, \$3,261.98; Mattapoisett, \$16,839.69; Middleborough, \$206,219.95; Norwell, \$969.03; Pembroke, \$3,133.24; Plymouth, \$7,-713.10; Rochester, \$3,588.20; Rockland, \$2,402; Scituate, \$3,476.80; Wareham, \$146,250.07; West Bridgewater, \$205,014.94; Whitman, \$2,658.22.

*Suffolk County.* — Boston, \$2,463.93; Chelsea, \$1,535.35; Revere, \$81,802.93.

*Worcester County.* — Ashburnham, \$8,714.05; Athol, \$110,138.20; Auburn, \$32,133.82; Barre, \$4,833.64; Blackstone, \$7,874.44; Brookfield, \$20,164.45; Charlton, \$9,342.98; Douglas, \$2,558.54; Dudley, \$5,425.57; East Brookfield, \$1,583.05; Fitchburg, \$13,113.19; Gardner, \$5,178.46; Grafton, \$5,480.11; Hardwick, \$1,044.72; Harvard, \$2,379.28; Holden, \$13,332.14; Hopedale, \$128.99; Lancaster, \$1,461.09; Leicester, \$3,760.38; Leominster, \$26,969.42; Lunenburg, \$6,927.38; Mendon, \$1,844.09; Milford, \$4,483.67; Millbury, \$3,-223.91; Millville, \$2,898.10; New Braintree, \$168.04; North Brookfield, \$1,-984.84; Northborough, \$4,017.60; Northbridge, \$2,629.66; Oakham, \$1,987.10; Oxford, \$18,314.85; Paxton, \$188,671.73; Petersham, \$3,923.83; Phillipston, \$3,367.32; Princeton, \$3,841.48; Rutland, \$9,638.50; Shrewsbury, \$5,170.84; Southborough, \$3,828.81; Southbridge, \$1,122.97; Spencer, \$2,702.60; Sterling, \$35,496.70; Sturbridge, \$2,452.08; Sutton, \$6,039.90; Templeton, \$9,268.90; Upton, \$2,304.31; Uxbridge, \$4,792.13; Warren, \$2,372.48; Webster, \$2,521.93; West Boylston, \$11,670.07; West Brookfield, \$2,487.94; Westborough, \$3,-917.11; Westminster, \$42,771.17; Winchendon, \$60,825.24; Worcester, \$66,-611.46.

#### HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS.

The following contracts were entered into during the year for the construction of town ways in the Five Western Counties, in accordance with the provisions of chapter 221, Acts of 1915, as amended by chapter 572, Acts of 1920: —

Granville-Southwick. — Dec. 22, 1925, contract made with Eugene L. Gobeille, Inc., of Worcester, for constructing about 12,085 feet of highway on the Gorge Road in Granville, and about 4,708 feet of highway on the same road in Southwick, the surface consisting of bituminous macadam. The proposal amounted to \$76,465.50. Work completed Nov. 30, 1926. Expenditure during 1926, \$64,647.18.

Peru-Worthington. — Nov. 30, 1926, contract made with B. Perini & Sons,



Inc., of Ashland, for constructing about 8,747 feet of highway on the Worthington Road in Peru, and about 1,847 feet of highway on the same road in Worthington, the surface consisting of gravel. The proposal amounted to \$79,392. Work not commenced.

The total expenditures during the year for the construction of these highways in the Five Western Counties amounted to \$70,737.37, details of which follow: —

*Route No. 6.* — Peru-Worthington, \$962.07.

*Route No. 9.* — Granville-Southwick, \$69,775.30.

#### SOUTHERN ROUTE TO ACCOMMODATE TRAFFIC BETWEEN BOSTON AND THE TERRITORY TO THE SOUTH AND EAST THEREOF.

Under the provisions of chapters 330 and 344, Acts of 1925, as amended by chapter 369, Acts of 1926, the Division of Highways is authorized to lay out and construct convenient and adequate ways for motor vehicles and other traffic in the cities of Boston and Quincy. Upon the completion of this route (Southern Artery) all parts of said ways shall become public streets or ways of the respective cities within which they lie and be kept in good condition and repair by them.

Contracts for the construction of portions of the Southern Artery were entered into during the year as follows: —

Quincy. — Nov. 23, 1926, contract made with Ezekiel C. Sargent, of Quincy, for constructing about 3,372 feet of highway, the surface consisting of bituminous macadam. The proposal amounted to \$64,450.80. Work not commenced.

Boston. — Nov. 30, 1926, contract made with J. C. Coleman & Sons Co., of Boston, for constructing about 13,096 feet of highway, the surface consisting of bituminous macadam. The proposal amounted to \$360,898.50. Work not commenced.

#### FEDERAL AID IN CONSTRUCTING HIGHWAYS.

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the States in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1925, inclusive.

The following Federal aid allotments have thus far been made to Massachusetts: —

For fiscal year ending June 30, 1917	.	.	.	.	.	.	\$73,850 94
For fiscal year ending June 30, 1918	.	.	.	.	.	.	147,701 90
For fiscal year ending June 30, 1919	.	.	.	.	.	.	958,145 15
For fiscal year ending June 30, 1920	.	.	.	.	.	.	1,400,078 27
For fiscal year ending June 30, 1921	.	.	.	.	.	.	1,472,788 83
For fiscal year ending June 30, 1922	.	.	.	.	.	.	1,096,176 04
For fiscal year ending June 30, 1923	.	.	.	.	.	.	730,784 03
For fiscal year ending June 30, 1924	.	.	.	.	.	.	950,448 62
For fiscal year ending June 30, 1925	.	.	.	.	.	.	1,089,806 22
For fiscal year ending June 30, 1926	.	.	.	.	.	.	1,099,891 00
For fiscal year ending June 30, 1927	.	.	.	.	.	.	1,089,055 00
Total	.	.	.	.	.	.	\$10,108,726 00

The total amount received by Massachusetts from 1916 to Nov. 30, 1926, is \$6,868,153.87.

Projects to the number of 23 have been prepared in addition to those shown in the report of the Department of Public Works, Division of Highways, for 1925. The total mileage included in the various Federal aid road projects in

this State, from the commencement of work of this character to Nov. 30, 1926, inclusive, is 468.764. The mileage in various counties is: —

Barnstable, 37.681 miles  
 Berkshire, 63.669 miles  
 Bristol, 50.822 miles  
 Dukes, 3.117 miles  
 Essex, 52.690 miles  
 Franklin, 18.875 miles

Hampden, 25.055 miles  
 Hampshire, 26.023 miles  
 Middlesex, 49.558 miles  
 Norfolk, 26.464 miles  
 Plymouth, 43.837 miles  
 Worcester, 70.973 miles

### STATEMENT OF FEDERAL AID ROAD PROJECTS<sup>1</sup> TO NOV. 30, 1926.

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
1	Acushnet-Fairhaven.	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	45,543 84	Work completed
36	Eastham-Wellfleet-Provincetown:				in Haverhill.
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanes-				
	borough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.

<sup>1</sup> All of these projects are now, or will be later, State highways.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1926 — *Continued.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
52	Oxford	3.208	\$64,160 00	\$64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
75	Topsfield-Ipswich-Rowley-New- bury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	26,602 48		Work underway.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleboro	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	70,080 18		Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsborough	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1926 — *Concluded.*

No.	TOWN OR CITY	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
121A	Abington . . . . .	0.947	\$17,887 34	\$17,887 34	Work completed.
121B	Bridgewater . . . . .	0.113	20,093 56	—	Work completed.
122A	Barnstable . . . . .	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee . . . . .	2.482	37,230 00	—	Work underway.
123A	Southampton . . . . .	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland . . . . .	0.189	30,296 68	30,296 68	Work completed.
125A	Wareham . . . . .	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham . . . . .	2.761	41,415 00	—	Work completed.
127A	Holyoke . . . . .	4.136	62,040 00	62,040 00	Work completed.
128A	Hinsdale . . . . .	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale . . . . .	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset . . . . .	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset . . . . .	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford . . . . .	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham . . . . .	0.530	7,950 00	7,950 00	Work completed.
133A	North Andover . . . . .	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover . . . . .	0.771	11,565 00	11,565 00	Work completed.
134A	Barre . . . . .	1.217	18,255 00	18,255 00	Work completed.
135A	Russell . . . . .	0.557	13,919 60	13,919 60	Work completed.
136A	Agawam . . . . .	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam . . . . .	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam . . . . .	1.000	15,000 00	—	Work completed.
137A	Sheffield . . . . .	0.170	22,710 05	22,710 05	Work completed.
138A	Chester . . . . .	0.097	10,818 36	10,818 36	Work completed.
139A	Brimfield . . . . .	0.103	6,075 05	6,075 05	Work completed.
140A	Lenox-Lee . . . . .	3.519	52,785 00	43,399 66	Work completed.
140B	Lee . . . . .	0.057	26,620 13	—	Work underway.
141A	Williamsburg . . . . .	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg . . . . .	5.042	95,783 17	—	Work underway.
142A	Fitchburg-Westminster . . . . .	3.960	69,171 34	69,171 34	Work completed.
143	Fairhaven-Mattapoisett . . . . .	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton . . . . .	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston . . . . .	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton . . . . .	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester . . . . .	4.930	73,950 00	—	Work underway.
147A	Lenox-Pittsfield . . . . .	2.349	35,235 00	—	Agreement signed.
148A	Raynham . . . . .	1.657	24,855 00	24,855 00	Work completed.
149A	Middleborough . . . . .	5.586	83,790 00	—	Work completed.
150A	Littleton-Westford . . . . .	1.985	29,775 00	29,775 00	Work completed.
150B	Westford . . . . .	2.660	39,900 00	—	Work completed.
151A	and B Swansea-Somerset . . . . .	0.464	89,736 24	—	Work completed.
152A	Dartmouth . . . . .	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth . . . . .	2.858	42,870 00	—	Work completed.
153A	Southampton-Easthampton . . . . .	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge . . . . .	2.503	37,545 00	—	Work underway.
156A	Orange . . . . .	1.058	15,870 00	15,870 00	Work completed.
157A	Sandisfield-Tolland . . . . .	0.644	34,803 50	34,803 50	Work completed.
158A	Dalton . . . . .	0.430	25,726 60	—	Work completed.
159A	Sekonk-Rehoboth-Swansea . . . . .	1.899	61,146 07	—	Work completed.
159B	Seekonk . . . . .	2.251	33,765 00	—	—
160A	Lenox-Lee-Stockbridge . . . . .	5.453	81,795 00	—	Work completed.
161A	Brockton-W. Bridgewater . . . . .	3.823	57,345 00	—	Work completed.
162A	Holliston . . . . .	3.315	49,725 00	—	Work completed.
163A	Amherst . . . . .	0.052	5,909 20	—	Work completed.
164A	Westminster-Winchendon . . . . .	0.750	38,580 41	—	Work underway.
165A	Winchendon . . . . .	2.460	36,900 00	—	Work underway.
168A	Deerfield . . . . .	1.856	27,840 00	—	Project approved.
169A	Merrimac-Amesbury . . . . .	3.397	50,955 00	—	Work completed.
171A	Chelmsford . . . . .	1.536	23,040 00	—	Work completed.
172A	Leominster-Sterling . . . . .	2.718	40,770 00	—	Work underway.
173A	Cheshire . . . . .	4.377	75,790 38	—	Work underway.
174A	Marshfield . . . . .	4.533	67,995 00	—	Work underway.
175A	Sandwich . . . . .	0.217	23,396 50	—	Project approved.
177A	Chatham . . . . .	3.964	59,460 00	—	Project approved.
178A	Chelmsford . . . . .	1.262	18,930 00	—	Project approved.
		468.764	\$8,436,795 29	\$6,868,153 87	

## BRIDGES.

During the year the Division has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:—

## BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR.

*Cities and Towns, Locality and Character of Structure.*

Amherst — North Pleasant Street over Mill River; two 18-foot spans, reinforced concrete slab.



- Amherst — South Pleasant Street over Branch Fort River; 15.75-foot span, reinforced concrete beam.
- Ashland — Union Street over Sudbury River; 31.5-foot span, reinforced concrete beam.
- Barnstable — Craigville Road over Centerville River; four 15-foot spans, wooden pile.
- Billerica — Bedford-Chelmsford Road over Concord River; five 20-foot and two 19.5-foot spans, reinforced concrete beam and concrete pile.
- Boston — Codman Street, Southern Artery; Dorchester rapid transit extension, 80-foot span, steel plate girder with reinforced concrete floor, carrying railroad over street.
- Boston — Southern Artery near Neponset River bridge; retaining wall.
- Boston — Southern Artery, over Davenport Brook; two 7.75-foot spans, reinforced concrete box culvert.
- Bridgewater — Broad Street over Town River; 27-foot span, reinforced concrete beam.
- Cheshire — South Street over Hoosic River; 46-foot span, reinforced concrete beam.
- Conway — Ashfield Road over South River; 45-foot span, reinforced concrete beam.
- Conway — Ashfield Road over South River; 34-foot span, reinforced concrete beam.
- East Brookfield — Main Street over Lake Lashaway; 16-foot span, reinforced concrete slab.
- Hinsdale — Washington Road over Housatonic River; 32-foot span, reinforced concrete beam.
- Medford — Winthrop Street over Mystic River; three 22.5-foot spans, reinforced concrete beam.
- Monson — Main Street over Conant Brook; 21-foot span, reinforced concrete beam.
- Sandwich — North County Road over Scorton Harbor Creek; two 30-foot spans, reinforced concrete beam.
- Somerset-Swansea — Providence North Route over Lees River; 23-foot span, reinforced concrete beam, stone faced, concrete abutments.
- Swansea-Providence — North Route over Coles River; 23-foot span, reinforced concrete beam, stone faced, concrete abutments.
- Webster — Gore Road over Sucker Brook; 15.5-foot span, reinforced concrete slab.
- West Brookfield — Ware Road over Wickaboag Pond; 30-foot span, reinforced concrete beam.
- Westminster — Winchendon Road over Nookagee River; two 26-foot spans, reinforced concrete beam.
- Westminster — Ashburnham Road over Nookagee River; 40-foot span, reinforced concrete beam.
- Williamsburg — Goshen Road over Mill River; 44.33-foot span, reinforced concrete beam.
- Williamsburg — Goshen Road over Mill River; 35-foot span, reinforced concrete beam.
- Winchendon — Spring Street over Millers River; 21.5-foot span, reinforced concrete beam.
- Winchendon — Ashburnham Road over Millers River; 22-foot span, reinforced concrete beam.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES  
COMPLETED IN 1926.

*Cities and Towns, Locality and Character of Work.*

- Agawam — Tarkhill Road over Tarkhill Brook; extension of reinforced concrete slab.

- Agawam — Tarkhill Road over Worthington Brook; extension of reinforced concrete beam.
- Athol — South Main Street over West Brook; extension of present bridge.
- Barre — New Braintree road at Barre Plains over Pratt Brook; extension of present bridge.
- Bedford — South Lexington Road over Shawsheen River; alteration and extension of superstructure.
- Bedford — South Lexington Road over Elm Brook; alteration and extension of superstructure.
- Bedford-Carlisle — Road over Concord River; cleaning and painting steel.
- Cheshire — South Street over Kitchen Brook; extension and alteration of reinforced concrete beam bridge.
- Dedham — Ames Street over Charles River; reinforced concrete extension of present stone arches.
- Franklin — Washington Street over Mine Brook; reinforced concrete slab extension to stone arch.
- Hingham. — Otis-Summer Streets over Hingham Cove; repairs to two reinforced concrete beam bridges.
- Lynn — North Shore Road over creek near Lynn Harbor; repairs to culvert.
- Newbury — High Street, Oldtown, over Parker River; temporary repairs.
- Newburyport-Salisbury — Bridge Street over Merrimack River; riprap at southerly abutment.
- North Adams — Williamstown Road over Hoosic River; repairs to floor system and resurfacing with wood blocks.
- Stockbridge — West Stockbridge Road over Marsh Brook; extension of reinforced concrete arch bridge.
- West Bridgewater — Brockton-Bridgewater Road over Town River; reinforced concrete beam bridge extension to stone arch.
- Williamsburg — Goshen Road over Mill River; alteration and extension of superstructure.

#### CONTEMPLATED BRIDGES AND STRUCTURES.

##### *Plans, Studies or Estimates made.*

##### *Cities and Towns, Locality and Character of Structure.*

- Amesbury — Macy Street Extension over Powow River; steel bridge.
- Barre — New Braintree Road over Boston and Maine Railroad; three spans, wooden trestle, total length 65 feet.
- Bridgewater-Middleborough — Bedford Street over Taunton River; three spans, two at 36.5 feet and one at 42 feet, reinforced concrete beam.
- Dedham — Washington Street over New York, New Haven and Hartford Railroad; 31.33-foot span, reinforced concrete beam.
- Dedham — Washington Street over Mother Brook; 19.33-foot span, extension of reinforced concrete beam.
- Dover-Sherborn — Bridge Street over Charles River; 90-foot span, reinforced concrete beam.
- Florida — Mohawk Trail over Cold River; 16-foot span, extension of reinforced concrete beam.
- Granby — Bachelor Street over Bachelor Brook; 20-foot span, reinforced concrete beam.
- Hingham — Cohasset cut-off over New York, New Haven and Hartford Railroad; three spans, one at 39 feet and two at 36 feet, reinforced concrete beam.
- Hingham — Cohasset cut-off over Weir River; 16-foot span, reinforced concrete slab.
- Huntington — Worthington Road over Westfield River; two 126-foot spans, deck steel truss.
- Marlborough — Boston-Worcester Road over Hop Brook; 15-foot reinforced concrete slab.



- Millis — Middlesex Street over Bogastow Brook; 11-foot span, extension and repairs to stone arch bridge.
- Newbury — Shore Road over Parker River; three 125-foot spans, deck truss.
- Newburyport-Salisbury — Bridge and Causeway streets over Merrimack River; five spans, total length 1,041 feet, repairs and resurfacing through steel truss.
- Northampton — Goshen Road over Beaver Brook; 28-foot span, extension of reinforced concrete beam.
- Otis-Becket — Otis Road over Farmington River; 40-foot reinforced concrete beam.
- Peru-Hinsdale — Middlefield Road over Branch of Housatonic River; 18-foot span, reinforced concrete slab.
- Quincy — Southern Artery over Canal; 36-foot span, reinforced concrete beam.
- Quincy — Southern Artery over Blacks Creek; 10-foot span, reinforced concrete slab.
- Revere — Extension of Squire Road over Boston and Maine Railroad; 35-foot span, reinforced concrete beam.
- Revere — Extension of Squire Road over Boston, Revere Beach and Lynn Railroad; 73-foot span, steel bridge.
- Sandisfield — Winsted Road over Farmington River; 136-foot span, through steel bridge.
- Sandisfield — Winsted Road over Farmington River; 125-foot span, through steel bridge.
- Sturbridge — County Road over Quinebaug River; 50-foot span, reinforced concrete beam.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns.*

*Towns, Locality and Character of Work.*

- Adams — Canal Street over Hoosic River; widening and strengthening.
- Charlemont — Heath Road over Avery Brook; examination and advice on rebuilding.
- Chatham — Bridge Street over Mitchells River; estimate, plans, specifications and supervision.
- Cheshire — Sand Hill Road over Dry Brook; examination and advice for strengthening.
- Dennis-Yarmouth — South County Road over Lower Bass River; advice on support of draw span.
- Douglas — Gilboa Street over Canal; advice on rebuilding.
- Dover-Needham — Charles River Street over Charles River; plans and estimate for reinforced concrete pile trestle, two 19.5-foot spans and three 20-foot spans.
- Dover-Needham — Charles River Street over Charles River; examination and report for strengthening.
- Erving-Montague — Bridge Street over Millers River; examination and report.
- Erving-Wendell — Near Erving Paper Mill over Millers River; examination and report.
- Florida — South County Road over Cold River; examination, estimate and plan for new bridge.
- Greenfield — Cheapside Bridge over Deerfield River; examination and report on strength.
- Huntington — Village Bridge over West Branch of Westfield River; examination and estimate for repairs and rebuilding.
- Huntington — Worthington Road over Westfield River; examination and report on resurfacing.
- Lancaster — Sprague Bridge over Nashua River; estimate, plans and specifications for repairs; supervision.
- Lancaster — Mill Street over Nashua River; estimate and report.
- Littleton — Westford Road over Stony Brook Branch, Boston and Maine Railroad; repairs approved.

- Maynard — Summer Street over Assabet River; estimate for extending and widening arches.
- Medfield-Millis — Fruit and Forest Streets over Charles River; estimate, plans and specifications for rebuilding.
- Mendon — Bellingham Street over Muddy Brook; estimate for diverting brook or replacing bridge.
- Mendon — Bellingham Street over Mill River; estimate for 24-foot span, reinforced concrete beam.
- Middleborough — East Main Street over Namasket River; estimate, plans and specifications for reinforced concrete beam; supervision.
- Millbury — Riverlin Street over Blackstone River; examination and report on strength.
- Milton — Adams Street over Neponset River; advice on repairs and extension of pier.
- Montgomery — Norwich Village Road over Roaring Brook; estimate of repairs to superstructure.
- Northfield — Schell Bridge over Connecticut River; estimate of repairs to superstructure.
- Russell — Blandford Road over Brook; estimate of repairs to old iron bridge.
- Seekonk — Pond Street over Ten Mile River; plans, estimates and specifications.
- Ware — South Street over Ware River; examination of completed repairs.
- West Stockbridge — East Road to Alford over Williams River; advice on repairs.
- West Stockbridge — Shaw Bridge over Williams River; estimate of repairs; plan; supervision.
- Windsor — Allen Bridge over Westfield River; examination and advice on repairs.
- Windsor — Axe Factory Bridge over Westfield River; examination and advice on repairs.

*Examinations, Reports, Estimates, etc., by direction of the Department.*

*Cities and Towns, Locality and Subject.*

- Attleborough — Boston-Providence Road over New York, New Haven and Hartford Railroad; examination and report.
- Barnstable — Mashpee-Cotuit Road over Mashpee River; examination for strength.
- Bernardston — Northfield Road over Boston and Maine Railroad; estimates and advice on rebuilding.
- Boston — State House; design for blue-print room.
- Buckland-Charlemont — Mohawk Trail, Scott's Bridge over Deerfield River; investigation and report on condition.
- Fall River-Somerset — Brightman Street over Taunton River; investigation.
- Groton-Pepperell — Littleton-Townsend Road over Nashua River; examination.
- Hingham-Weymouth — Bridge and Lincoln Streets over Back River; advice as to strength.
- Lee — East Lee to South Lee Road, over New York, New Haven and Hartford Railroad; estimate on repairs to superstructure.
- Seekonk — School Street at Rhode Island line, over Runnins River; investigation and report on plans.
- Seekonk — Mink Street at Rhode Island line, over Runnins River; investigation and report on plans.
- West Springfield — Westfield Road, underpass of Boston and Albany Railroad; investigation and estimate.
- Windsor — River Road over Baldwin Brook; approximate estimate for rebuilding.



*Examinations, Reports, Estimates, etc., at Request of Other Departments.*

*Cities and Towns, Locality and Character of Work.*

- Chelsea — Metropolitan Filling Station; investigation of design of retaining wall for oil tank protection, for Department of Public Safety.  
 Concord — Concord Reformatory; boiler room alteration, for Department of Administration and Finance.  
 Westfield — Westfield Sanatorium; advice regarding chimney, for Department of Administration and Finance.  
 Sign Board Construction — Advice on strength of certain methods of construction, for Department of Attorney-General.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by chapter 313, Acts of 1923.*

*Cities and Towns, Location, Character of Work and Date of Approval.*

- Adams — Fisk Street over Fisk Brook; 16.5-foot span beam and jack arch; approved June 15, 1926.  
 Adams — Mill Street over Tophet Brook; 35.5-foot span beam and jack arch; approved June 15, 1926.  
 Adams — Spring Street over Hoosic River; 47-foot span I-beam, concrete floor; approved June 15, 1926.  
 Amherst — East Main Street over Fort River; two spans at 15 feet 5 inches, concrete slab; approved May 11, 1926.  
 Brockton — Plain Street over Salisbury Plain River; 24 feet, 11.5 inches span, I-beam concrete slab; approved Nov. 16, 1926.  
 Egremont — Mt. Washington Road over Mt. Washington Brook; 10-foot span, I-beam, concrete slab; approved Aug. 24, 1926.  
 Falmouth — Acapesket Road over Green Pond; ten 24.5-foot spans, reinforced concrete beam and concrete pile; approved Aug. 10, 1926.  
 Gardner — Elm Street over Boston and Maine Railroad; 36-foot span, I-beam, concrete slab; approved June 26, 1926.  
 Grafton — Depot Street over Blackstone River; 68-foot span, reinforced concrete arch; approved Feb. 12, 1926.  
 Lynn-Saugus — Boston Street and Lincoln Avenue over Saugus River; 21.5-foot span, reinforced concrete slab; approved Sept. 7, 1926.  
 Millbury — Riverlin Street over Blackstone River; 41-foot span, steel truss; approved Oct. 26, 1926.  
 Milton — Adams Street over Neponset River; one 58-foot span and one 54-foot 7-inch span, through girder; approved June 8, 1926.  
 North Adams — Brown Street over Hoosic River; two 42-foot spans, plate girder with I-beam and concrete slab floor; approved June 26, 1926.  
 Northampton — Pleasant Street over Mill River; 95-foot span, pony truss; approved Feb. 2, 1926.  
 Northborough — School Street over Assabet River; 15-foot span, concrete slab; approved Jan. 5, 1926.  
 Norton — Plain Street over Mulberry Meadow Brook; 19-foot span, concrete beam and slab; approved Dec. 19, 1925.  
 Orange — Tullyville over Tully River; 30-foot span, concrete slab; approved July 27, 1926.  
 Oxford — North Oxford-Charlton Road over Bartlett's Flume; 11-foot 5-inch span, concrete slab; approved Nov. 3, 1926.  
 Pittsfield — Hubbard Avenue over East Branch Housatonic River; 59-foot span, half through plate girder; approved Aug. 3, 1926.  
 Pittsfield — Lebanon Avenue over Housatonic River; 51-foot span, foot bridge; approved June 1, 1926.  
 Winchendon — Spring Street over Mason and Parker Brook; 41.5-foot span, concrete arch; approved Aug. 31, 1926.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the bridge shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1926, was 209. In 1925 the number was 169; in 1924, 228; and in 1923, 288.

The total expenditures during the year were \$13,231.58.

The total expenditures from 1912 to Nov. 30, 1926, inclusive, were \$129,-208.18.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and of operating the draw and maintaining the bridge shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1926, was 1,617. In 1925 the number was 2,406; in 1924, 2,948; and in 1923, 2,258.

The total expenditures during the year were \$17,511.41.

The total expenditures from 1912 to Nov. 30, 1926, inclusive, were \$264,281.60.

CONSTRUCTION OF TOWN AND COUNTY WAYS.

(Section 34, chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921.)

During the year the Division has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties: —

COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length contracted for (Feet).
	State.	Town.	County.		
<i>Barnstable County.</i>					
Barnstable . . .	\$16,700 00	\$16,700 00	\$16,700 00	Bituminous concrete . . .	10,100
Barnstable . . .	6,000 00	7,000 00	6,000 00	Bridge and approaches . . .	550
Sandwich . . .	8,000 00	8,000 00	8,000 00	Bituminous concrete . . .	4,550
<i>Berkshire County.</i>					
Alford . . .	500 00	500 00	500 00	Gravel . . . . .	800
Clarksburg . . .	500 00	500 00	500 00	Gravel . . . . .	5,800
Egremont . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,250
Florida . . .	1,500 00	3,000 00	—	Gravel . . . . .	700
Hancock . . .	2,000 00	500 00	2,000 00	Gravel . . . . .	1,150
Lee . . .	1,000 00	1,200 00	—	Repairs and oiling . . .	8,500
Lee . . .	8,000 00	8,000 00	—	Bituminous macadam . . .	1,833
Monterey . . .	3,500 00	500 00	3,500 00	Gravel . . . . .	1,700
Mount Washington . . .	500 00	500 00	500 00	Gravel . . . . .	300
New Marlborough . . .	3,000 00	1,000 00	2,000 00	Gravel . . . . .	2,600
New Marlborough . . .	500 00	500 00	—	Gravel . . . . .	500
New Marlborough . . .	1,000 00	2,000 00	1,000 00	Gravel . . . . .	1,750
Otis . . .	500 00	500 00	500 00	Gravel . . . . .	350
Otis . . .	500 00	1,000 00	500 00	Gravel . . . . .	2,500
Peru . . .	500 00	500 00	500 00	Gravel . . . . .	500
Richmond . . .	2,000 00	1,000 00	—	Gravel . . . . .	550
Savoy . . .	15,000 00	—	5,000 00	Gravel . . . . .	4,200
Sheffield . . .	1,000 00	1,000 00	500 00	Gravel . . . . .	800
Stockbridge . . .	30,000 00	15,000 00	—	Bituminous macadam . . .	5,866
Tyringham . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	1,000
Washington . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,250
West Stockbridge . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,600
Williamstown . . .	2,000 00	4,000 00	—	Gravel . . . . .	1,350
Windsor . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	975
<i>Bristol County.</i>					
Acushnet . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . .	2,350
Berkley . . .	1,500 00	1,500 00	—	Repairs and oiling . . .	34,765
Berkley . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Dartmouth . . .	5,000 00	5,000 00	—	Bituminous macadam . . .	3,350
Easton . . .	6,000 00	6,000 00	—	Bituminous macadam . . .	1,900
Fairhaven . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . .	3,130
Freetown . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . . .	2,950



## COUNTIES AND TOWNS.

## CONTRIBUTIONS.

## Type of Road.

Length contracted for  
(Feet).*Bristol County — Con.*

	State.	Town.	County.		
Raynham . . .	\$13,300 00	\$7,000 00	\$13,300 00	Bituminous macadam	5,281
Raynham . . .	4,400 00	4,400 00	—	Gravel . . .	20,140
Rehoboth . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	2,200
Seekonk . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,137
Somerset . . .	3,000 00	4,901 00	2,500 00	Bituminous macadam	1,925
Swansea . . .	4,500 00	6,500 00	2,000 00	Bituminous macadam	2,050

*Dukes County*

Edgartown . . .	20,000 00	10,000 00	10,000 00	Bituminous concrete.	10,800
Oak Bluffs . . .	20,000 00	10,000 00	10,000 00	Bituminous concrete	11,700
Tisbury . . .	13,000 00	6,500 00	6,500 00	Bituminous concrete	7,398

*Essex County.*

Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,550
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,200
Essex . . .	2,500 00	2,500 00	—	Repairs and oiling . . .	25,660
Georgetown . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	2,050
Groveland . . .	400 00	200 00	400 00	Gravel . . .	2,500
Hamilton . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	5,643
Ipswich . . .	4,500 00	4,500 00	4,500 00	Gravel . . .	4,400
Ipswich . . .	1,500 00	1,500 00	—	Repairs and oiling . . .	19,600
Newbury . . .	3,300 00	3,300 00	3,300 00	Gravel . . .	4,000
Rockport . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,900
Rowley . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,800
Saugus . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam	2,800
Swampscott . . .	3,750 00	7,500 00	3,750 00	Cement concrete	1,200
Wenham . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	1,900
West Newbury . . .	5,000 00	5,000 00	5,000 00	Gravel . . .	4,200

*Franklin County.*

Ashfield . . .	1,500 00	1,500 00	—	Gravel . . .	1,000
Ashfield . . .	3,000 00	1,500 00	—	Gravel . . .	1,600
Ashfield . . .	1,500 00	1,500 00	—	Gravel . . .	1,200
Ashfield . . .	2,500 00	1,500 00	1,000 00	Gravel . . .	1,550
Buckland . . .	5,000 00	4,000 00	1,000 00	Gravel . . .	4,087
Charlemont . . .	1,500 00	500 00	1,000 00	Gravel . . .	1,150
Colrain . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	2,000
Conway . . .	2,500 00	1,500 00	1,000 00	Gravel . . .	2,400
Conway . . .	1,100 00	1,100 00	—	Gravel . . .	1,000
Gill . . .	15,000 00	—	5,000 00	Gravel . . .	3,410
Hawley . . .	1,500 00	500 00	1,000 00	Gravel . . .	1,600
Heath . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	2,000
Leverett . . .	1,500 00	500 00	1,000 00	Gravel . . .	1,800
Leyden . . .	1,000 00	500 00	500 00	Gravel . . .	700
New Salem . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	2,700
Orange . . .	1,500 00	1,500 00	500 00	Gravel . . .	2,500
Orange . . .	1,000 00	1,000 00	500 00	Gravel . . .	2,300
Rowe . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	1,650
Shelburne . . .	4,500 00	2,500 00	1,500 00	Gravel . . .	1,925
Shelburne . . .	2,000 00	2,000 00	—	Gravel . . .	1,200
Shutesbury . . .	1,000 00	500 00	800 00	Gravel . . .	1,000
Sunderland . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	1,800
Warwick . . .	1,000 00	500 00	500 00	Gravel . . .	800
Warwick . . .	1,000 00	500 00	500 00	Gravel . . .	1,000
Warwick . . .	3,000 00	—	1,000 00	Gravel . . .	2,000
Wendell . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	1,550
Whately . . .	5,000 00	3,000 00	2,000 00	Bituminous macadam	2,100

*Hampden County.*

Agawam . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam	4,567
Blandford . . .	5,000 00	1,000 00	5,000 00	Gravel . . .	2,700
Chester . . .	7,000 00	1,500 00	7,000 00	Gravel . . .	5,100
East Longmeadow . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	7,500
East Longmeadow . . .	500 00	500 00	500 00	Gravel . . .	850
Granville . . .	4,000 00	2,000 00	4,000 00	Gravel . . .	2,434
Hampden . . .	7,000 00	3,500 00	7,000 00	Bituminous macadam	4,000
Holland . . .	500 00	500 00	500 00	Gravel . . .	400
Ludlow . . .	2,000 00	4,000 00	2,000 00	Bituminous macadam	4,350
Ludlow . . .	8,750 00	10,500 00	1,750 00	Bituminous macadam	2,500
Montgomery . . .	1,000 00	300 00	1,000 00	Gravel . . .	800
Russell . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,320
Southwick . . .	3,500 00	3,250 00	3,500 00	Gravel . . .	4,035
Tolland . . .	3,000 00	1,500 00	3,000 00	Gravel . . .	2,000
Wilbraham . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,200

*Hampshire County.*

Belchertown . . .	2,500 00	2,500 00	—	Gravel . . .	1,800
Chesterfield . . .	500 00	500 00	500 00	Gravel . . .	500
Chesterfield . . .	6,000 00	1,500 00	1,500 00	Gravel . . .	1,867
Enfield . . .	14,000 00	3,000 00	2,000 00	Bituminous macadam	2,100
Goshen . . .	1,000 00	500 00	500 00	Gravel . . .	800
Granby . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam	700
Greenwich . . .	1,000 00	500 00	500 00	Gravel . . .	540
Huntington . . .	3,000 00	1,000 00	500 00	Gravel . . .	1,200
Middlefield . . .	2,000 00	500 00	500 00	Gravel . . .	850

COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length contracted for (Feet).
	State.	Town.	County.		
<i>Hampshire County — Con.</i>					
Northampton . . .	\$5,000 00	\$5,000 00	\$3,000 00	Gravel . . . . .	7,000
Pelham . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,350
Plainfield . . . . .	5,000 00	500 00	1,000 00	Gravel . . . . .	2,050
Prescott . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	740
South Hadley . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	700
Worthington . . . . .	11,000 00	1,500 00	1,500 00	Gravel . . . . .	3,598
<i>Middlesex County.</i>					
Acton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,800
Acton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,000
Arlington . . . . .	8,000 00	16,000 00	—	Reinforced cement concrete . . . . .	1,325
Ashby . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	17,952
Ashland . . . . .	11,000 00	11,000 00	11,000 00	Bridge and approaches . . . . .	3,800
Bedford . . . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . . . .	3,106
Bedford . . . . .	6,000 00	—	3,000 00	Bituminous macadam . . . . .	1,306
Belmont . . . . .	23,000 00	46,000 00	23,000 00	Bituminous macadam . . . . .	10,170
Billerica . . . . .	28,000 00	—	14,000 00	Bridge and approaches . . . . .	1,050
Boxborough . . . . .	500 00	500 00	500 00	Gravel . . . . .	1,000
Boxborough . . . . .	550 00	550 00	550 00	Repairs and oiling . . . . .	21,648
Burlington . . . . .	1,800 00	1,800 00	—	Repairs and oiling . . . . .	29,900
Burlington . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,800
Carlisle . . . . .	800 00	—	800 00	Gravel . . . . .	1,000
Carlisle . . . . .	800 00	800 00	800 00	Gravel . . . . .	1,800
Carlisle-Bedford . . . .	500 00	500 00	500 00	Cleaning and painting bridge . . . . .	—
Chelmsford . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	1,814
Chelmsford . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	1,500
Chelmsford . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	14,256
Concord . . . . .	3,500 00	3,500 00	3,500 00	Bituminous macadam . . . . .	1,950
Dracut . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,250
Dunstable . . . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . . . .	41,184
Framingham . . . . .	10,000 00	25,864 00	—	Bituminous macadam . . . . .	5,764
Groton . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	6,500
Hopkinton . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	2,700
Lexington . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,106
Lincoln . . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . . . . .	4,640
Littleton . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,600
Littleton . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	29,560
Maynard . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	2,100
Maynard . . . . .	2,500 00	2,500 00	2,500 00	Bituminous macadam . . . . .	1,000
Medford . . . . .	10,000 00	30,000 00	—	Bridge and approaches . . . . .	360
Natick . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	7,550
North Reading . . . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . . . .	48,840
Pepperell . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	20,550
Pepperell . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,400
Sherborn . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Shirley . . . . .	6,500 00	6,000 00	6,500 00	Bituminous macadam . . . . .	2,407
Stow . . . . .	16,000 00	15,000 00	16,000 00	Bituminous macadam . . . . .	8,150
Sudbury . . . . .	2,750 00	2,750 00	2,750 00	Repairs and oiling . . . . .	68,640
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,900
Tyngsborough . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	34,320
Tyngsborough . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,800
Wakefield . . . . .	5,500 00	5,500 00	5,500 00	Bituminous macadam . . . . .	2,868
Waltham . . . . .	24,000 00	48,000 00	24,000 00	Bituminous macadam . . . . .	9,400
Wayland . . . . .	2,000 00	3,000 00	2,000 00	Repairs and oiling . . . . .	50,160
Wayland . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	1,600
Westford . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	45,900
Weston . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	6,760
Wilmington . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	18,480
Wilmington . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,200
<i>Nantucket County.</i>					
Nantucket . . . . .	10,000 00	10,000 00	—	Bituminous concrete . . . . .	4,400
<i>Norfolk County.</i>					
Avon . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,500
Bellingham . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,400
Bellingham . . . . .	11,000 00	4,500 00	3,500 00	Gravel and bituminous macadam . . . . .	2,753
Canton . . . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . . . .	3,000
Dedham . . . . .	5,000 00	5,000 00	12,000 00	Bridge and approaches . . . . .	750
Franklin . . . . .	6,000 00	6,000 00	6,000 00	Gravel . . . . .	4,500
Holbrook . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	2,710
Medfield . . . . .	8,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	1,900
Medway . . . . .	3,100 00	3,100 00	3,100 00	Gravel . . . . .	2,950
Medway . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Millis . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,400
Millis . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,250
Needham . . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . . . . .	2,500
Norfolk . . . . .	1,000 00	1,500 00	—	Repairs and oiling . . . . .	21,648
Norfolk . . . . .	6,000 00	4,000 00	4,000 00	Gravel . . . . .	3,300
Norwood . . . . .	20,000 00	20,000 00	20,000 00	Cement concrete . . . . .	4,599
Randolph . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	1,400
Sharon . . . . .	5,500 00	5,500 00	4,000 00	Bituminous macadam . . . . .	2,700
Stoughton . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	6,000
Walpole . . . . .	7,500 00	15,000 00	7,500 00	Bituminous concrete . . . . .	4,931
Westwood . . . . .	7,500 00	7,500 00	5,000 00	Bituminous macadam . . . . .	2,750



COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length contracted for (Feet).
	State.	Town.	County.		
<i>Plymouth County.</i>					
Abington . . . .	\$3,000 00	\$3,000 00	\$2,500 00	Bituminous macadam . .	1,625
Carver . . . . .	5,000 00	5,000 00	4,000 00	Bituminous concrete. . .	5,600
Duxbury . . . . .	5,000 00	5,000 00	5,000 00	Bituminous concrete. . .	4,200
East Bridgewater . .	5,000 00	8,000 00	—	Bituminous macadam . . .	4,095
East Bridgewater . .	1,700 00	1,700 00	1,700 00	Bituminous concrete. . .	700
East Bridgewater . .	700 00	700 00	700 00	Bituminous macadam . . .	1,175
Hanson . . . . .	5,500 00	3,000 00	3,000 00	Bituminous concrete. . .	2,509
Kingston . . . . .	6,000 00	6,000 00	4,000 00	Bituminous macadam . . .	4,000
Lakeville . . . . .	13,000 00	7,500 00	7,500 00	Bituminous macadam . . .	5,479
Mattapoisett . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	3,569
Middleborough . . . .	10,000 00	15,000 00	5,000 00	Bituminous macadam . . .	5,732
Middleborough . . . .	4,000 00	4,000 00	2,000 00	Gravel . . . . .	4,551
Norwell . . . . .	10,000 00	1,000 00	4,000 00	Bituminous macadam . . .	3,020
Norwell . . . . .	6,000 00	1,000 00	3,000 00	Bituminous macadam . . .	1,932
Pembroke . . . . .	6,000 00	4,000 00	4,000 00	Bituminous concrete. . .	4,000
Plympton . . . . .	15,000 00	6,000 00	10,000 00	Bituminous concrete. . .	6,875
Rochester . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	4,200
Rockland . . . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . .	3,525
Wareham . . . . .	15,000 00	7,500 00	—	Bituminous concrete. . .	6,308
West Bridgewater . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	3,764
Whitman . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	3,335
<i>Worcester County.</i>					
Ashburnham . . . . .	12,500 00	7,500 00	10,000 00	Bituminous macadam . . .	4,100
Barre . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	2,374
Berlin . . . . .	6,500 00	3,000 00	6,500 00	Bituminous macadam . . .	5,450
Blackstone . . . . .	3,500 00	3,500 00	3,500 00	Gravel . . . . .	4,600
Bolton . . . . .	5,000 00	1,000 00	5,000 00	Bituminous macadam . . .	1,500
Boylston . . . . .	25,500 00	8,500 00	17,000 00	Bituminous macadam . . .	6,500
Boylston . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	31,516
Brookfield . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,350
Brookfield . . . . .	2,700 00	4,500 00	—	Gravel . . . . .	66,000
Dana . . . . .	3,250 00	1,000 00	2,500 00	Gravel . . . . .	2,925
Dudley . . . . .	800 00	800 00	—	Repairs and oiling . . .	13,522
Grafton . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	3,300
Harvard . . . . .	1,000 00	1,000 00	—	Gravel . . . . .	2,000
Hubbardston . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . .	42,240
Lancaster . . . . .	10,000 00	20,000 00	—	Bridge and approaches . .	350
Lunenburg . . . . .	500 00	500 00	500 00	Repairs and oiling . . .	3,696
Mendon . . . . .	4,800 00	2,400 00	4,800 00	Gravel . . . . .	4,250
Millbury . . . . .	9,000 00	9,000 00	—	Reinforced cement concrete	1,115
Oakham . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	800
Paxton . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	15,150
Paxton . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,500
Petersham . . . . .	5,000 00	3,000 00	5,000 00	Gravel . . . . .	2,700
Phillipston . . . . .	3,000 00	1,000 00	3,000 00	Gravel . . . . .	2,650
Princeton . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	2,482
Princeton . . . . .	17,000 00	6,000 00	17,000 00	Gravel . . . . .	8,669
Royalston . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	700
Royalston . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	600
Rutland . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	700
Rutland . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	24,575
Southborough . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	3,700
Southborough . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	5,800
Southbridge . . . . .	11,500 00	23,000 00	11,500 00	Bituminous macadam . . .	6,653
Spencer . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,700
Sterling . . . . .	12,500 00	5,000 00	12,500 00	Gravel . . . . .	7,842
Upton . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,500
Uxbridge . . . . .	600 00	600 00	—	Repairs and oiling . . .	5,200
Westborough . . . . .	10,000 00	10,000 00	16,000 00	Bituminous macadam . . .	3,540
Westminster . . . . .	5,200 00	2,600 00	5,200 00	Gravel . . . . .	2,365
Westminster . . . . .	2,000 00	—	2,000 00	Gravel . . . . .	550
Westminster . . . . .	2,000 00	1,000 00	(1,000 00 by State Dept. of Mental Diseases)	Gravel . . . . .	1,000
West Boylston . . . . .	1,000 00	2,000 00	1,000 00	Gravel . . . . .	925
West Brookfield . . . .	121,800 00	—	50,000 00	Bituminous macadam . . .	13,181
Winchendon . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . .	5,417

The expenditures during the year in various counties were: —

Barnstable, \$30,140.09  
 Berkshire, \$108,878.72  
 Bristol, \$83,372.57  
 Dukes, \$22,789.72  
 Essex, \$63,396.51  
 Franklin, \$85,812.16  
 Hampden, \$118,157.86

Hampshire, \$98,369.33  
 Middlesex, \$325,185.79  
 Nantucket, \$13,318.92  
 Norfolk, \$158,725.94  
 Plymouth, \$158,044.97  
 Worcester, \$323,998.68  
 Total, \$1,590,191.26

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$21,779.01; Sandwich, \$8,361.08.

*Berkshire County.* — Alford, \$585.15; Clarksburg, \$585.15; Egremont, \$1,170.31; Florida, \$1,755.46; Hancock, \$5,848.68; Lee, \$10,166.92; Monterey, \$4,136.56; Mount Washington, \$585.15; New Marlborough, \$5,265.96; Otis, \$5,236.03; Peru, \$6,788.95; Richmond, \$2,340.57; Savoy, \$18,047.63; Sheffield, \$1,170.31; Stockbridge, \$34,663.14; Tyringham, \$1,170.31; Washington, \$2,340.61; West Stockbridge, \$3,510.91; Williamstown, \$2,340.61; Windsor, \$1,170.31.

*Bristol County.* — Acushnet, \$5,851.52; Berkley, \$2,925.76; Dartmouth, \$5,851.52; Dighton, \$964.07; Easton, \$7,021.83; Fairhaven, \$9,362.44; Free-town, \$8,251.73; Raynham, \$19,654.94; Rehoboth, \$3,510.91; Seekonk, \$11,696.90; Somerset, \$3,014.58; Swansea, \$5,266.37.

*Dukes County.* — Edgartown, \$8,340.76; Tisbury, \$14,448.96.

*Essex County.* — Boxford, \$2,340.61; Essex, \$2,925.76; Georgetown, \$2,340.61; Groveland, \$468.10; Hamilton, \$13,164.55; Ipswich, \$7,154.86; Newbury, \$4,323.57; Rockport, \$12,247.97; Rowley, \$1,170.31; Saugus, \$2,528.24; Swampscott, \$3,614.03; Wenham, \$5,266.38; West Newbury, \$5,851.52.

*Franklin County.* — Ashfield, \$11,237.93; Buckland, \$5,850.30; Charlemont, \$1,755.46; Colrain, \$2,340.61; Conway, \$4,209.87; Erving, \$351.09; Gill, \$20,277.12; Hawley, \$1,755.46; Heath, \$2,340.61; Leverett, \$1,755.46; Leyden, \$1,170.05; New Salem, \$2,340.59; Orange, \$2,925.76; Rowe, \$2,340.48; Shelburne, \$7,606.98; Shutesbury, \$1,170.30; Sunderland, \$2,340.61; Warwick, \$5,851.35; Wendell, \$2,340.61; Whately, \$5,851.52.

*Hampden County.* — Blandford, \$5,851.52; Chester, \$8,191.79; East Longmeadow, \$6,436.68; Granville, \$4,681.22; Hampden, \$8,192.04; Holland, \$585.16; Ludlow, \$12,580.78; Montgomery, \$1,170.31; Russell, \$1,170.31; Southwick, \$4,892.58; Tolland, \$3,510.91; West Springfield, \$30,884.05; Westfield, \$26,499.60; Wilbraham, \$3,510.91.

*Hampshire County.* — Belchertown, \$24,956.79; Chesterfield, \$7,606.98; Enfield, \$15,561.48; Goshen, \$1,741.59; Granby, \$1,170.30; Greenwich, \$1,170.28; Huntington, \$3,510.86; Middlefield, \$2,340.61; Northampton, \$5,851.52; Pelham, \$1,170.30; Plainfield, \$12,872.87; Prescott, \$1,169.24; South Hadley, \$1,138.95; Williamsburg, \$2,894.12; Worthington, \$15,213.44.

*Middlesex County.* — Acton, \$4,681.22; Arlington, \$11,683.72; Ashby, \$1,170.30; Ashland, \$12,796.67; Bedford, \$14,516.81; Belmont, \$26,667.15; Billerica, \$49,626.31; Boxborough, \$1,228.83; Burlington, \$4,447.17; Carlisle, \$2,111.58; Chelmsford, \$14,021.81; Concord, \$4,096.08; Dracut, \$4,086.60; Dunstable, \$2,048.04; Framingham, \$10,050.99; Groton, \$5,851.52; Hopkinton, \$7,021.83; Lexington, \$5,851.52; Lincoln, \$8,777.29; Littleton, \$2,925.76; Maynard, \$9,366.66; Natick, \$17,554.57; North Reading, \$3,491.41; Pepperell, \$3,741.82; Sherborn, \$1,170.30; Shirley, \$7,606.98; Sudbury, \$6,495.19; Stowe, \$18,724.88; Tyngsborough, \$2,822.93; Wakefield, \$6,309.30; Wayland, \$3,529.93; Westford, \$4,651.67; Weston, \$16,969.43; Waltham, \$26,171.21; Wilmington, \$2,918.31.

*Nantucket County.* — Nantucket, \$13,318.92.

*Norfolk County.* — Avon, \$3,471.90; Bellingham, \$9,480.99; Canton, \$8,575.46; Cohasset, \$2,925.76; Dedham, \$8,204.66; Dover, \$884.90; Foxborough, \$141.57; Franklin, \$7,021.83; Holbrook, \$7,012.48; Medfield, \$7,561.07; Medway, \$4,704.30; Millis, \$16,674.49; Needham, \$5,664.28; Norfolk, \$9,884.25; Norwood, \$23,406.10; Randolph, \$1,638.43; Sharon, \$7,294.88; Stoughton, \$16,969.42; Walpole, \$4,169.70; Westwood, \$13,039.47.

*Plymouth County.* — Abington, \$3,576.14; Carver, \$5,851.50; Duxbury, \$5,851.52; East Bridgewater, \$9,877.84; Halifax, \$618.35; Hanson, \$6,885.96; Hingham, \$2,925.76; Kingston, \$7,017.18; Lakeville, \$15,213.97; Mattapoisett, \$7,020.14; Middleborough, \$11,458.99; Norwell, \$17,554.57; Pembroke, \$7,021.83; Plympton, \$16,384.27; Rochester, \$603.30; Rockland, \$7,908.28; Wareham, \$17,554.57; West Bridgewater, \$11,210.08; Whitman, \$3,510.72.

*Worcester County.* — Ashburnham, \$18,569.26; Barre, \$2,031.84; Berlin, \$7,-



606.98; Blackstone, \$7,606.98; Bolton, \$3,755.82; Boylston, \$27,292.12; Brookfield, \$5,500.43; Dana, \$3,803.49; Dudley, \$916.32; Grafton, \$5,617.47; Harvard, \$4,746.89; Hubbardston, \$1,170.31; Lancaster, \$8,718.32; Lunenburg, \$3,857.71; Mendon, \$5,617.46; Millbury, \$8,777.29; Millville, \$710.35; New Braintree, \$680.29; Northbridge, \$7,511.84; Oakham, \$1,170.30; Paxton, \$4,204.94; Peterham, \$5,205.61; Phillipston, \$3,510.91; Princeton, \$15,213.96; Royalston, \$2,340.51; Rutland, \$5,851.52; Southborough, \$22,195.81; Southbridge, \$7,679.11; Sterling, \$10,315.38; Spencer, \$5,020.99; Sutton, \$2,497.36; Upton, \$2,340.42; Uxbridge, \$1,005.41; West Boylston, \$1,107.81; West Brookfield, \$68,792.96; Westborough, \$13,204.45; Westminster, \$8,664.81; Winchendon, \$19,185.25.

## REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1921, by chapter 281, Acts of 1922, and by chapter 315, Acts of 1926.)

During the year the Division contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns: —

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Barnstable County:</i>			
Brewster . . . . .	39	\$3,900 00	\$2,925 00
Dennis . . . . .	80	8,000 00	6,000 00
Eastham . . . . .	40	4,000 00	2,000 00
Harwich . . . . .	74	7,400 00	7,400 00
Mashpee . . . . .	27	2,700 00	1,350 00
Sandwich . . . . .	66	6,600 00	4,950 00
Truro . . . . .	27	2,700 00	2,025 00
Wellfleet . . . . .	35	3,500 00	2,625 00
<i>Berkshire County:</i>			
Alford . . . . .	20	2,000 00	800 00
Becket . . . . .	60	6,000 00	2,400 00
Cheshire . . . . .	42	4,200 00	3,150 00
Egremont . . . . .	31	3,100 00	2,325 00
Florida . . . . .	42	4,200 00	3,150 00
Hancock . . . . .	30	3,000 00	1,500 00
Hinsdale . . . . .	36	3,600 00	2,700 00
Lanesborough . . . . .	39	3,900 00	2,925 00
Monterey . . . . .	53	5,300 00	1,325 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	53	5,300 00	1,325 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	36	3,600 00	1,800 00
Sandisfield . . . . .	84	8,400 00	1,260 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,250 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	38	3,800 00	3,800 00
Windsor . . . . .	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
<b>Freetown</b> . . . . .	47	4,700 00	4,700 00

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Bristol County — Con.</i>			
Norton . . . . .	57	\$5,700 00	\$7,125 00
Rehoboth . . . . .	106	10,600 00	5,300 00
Swansea . . . . .	46	4,600 00	6,900 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,050 00
<i>Essex County:</i>			
Boxford . . . . .	51	5,100 00	2,550 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	30	3,000 00	4,500 00
Merrimac . . . . .	30	3,000 00	4,500 00
Middleton . . . . .	28	2,800 00	3,500 00
Newbury . . . . .	36	3,600 00	5,400 00
Rowley . . . . .	30	3,000 00	3,750 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	82	8,200 00	3,280 00
Bernardston . . . . .	41	4,100 00	2,050 00
Buckland . . . . .	44	4,400 00	6,600 00
Charlemont . . . . .	50	5,000 00	2,500 00
Colrain . . . . .	86	8,600 00	6,450 00
Conway . . . . .	76	7,600 00	1,900 00
Gill . . . . .	36	3,600 00	2,700 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	54	5,400 00	810 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	41	4,100 00	615 00
Monroe . . . . .	18	1,800 00	2,250 00
New Salem . . . . .	64	6,400 00	1,600 00
Northfield . . . . .	70	7,000 00	5,250 00
Rowe . . . . .	41	4,100 00	1,025 00
Shelburne . . . . .	47	4,700 00	5,875 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Sunderland . . . . .	34	3,400 00	3,400 00
Warwick . . . . .	55	5,500 00	1,375 00
Wendell . . . . .	47	4,700 00	1,880 00
Whately . . . . .	41	4,100 00	3,075 00
<i>Hampden County:</i>			
Blandford . . . . .	83	8,300 00	2,075 00
Brimfield . . . . .	60	6,000 00	3,000 00
Chester . . . . .	66	6,600 00	4,950 00
Granville . . . . .	75	7,500 00	1,875 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	5,000 00
Tolland . . . . .	42	4,200 00	1,050 00
Wales . . . . .	25	2,500 00	1,250 00
<i>Hampshire County:</i>			
Belchertown . . . . .	115	11,500 00	4,600 00
Chesterfield . . . . .	58	5,800 00	870 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,850 00
Goshen . . . . .	28	2,800 00	700 00
Granby . . . . .	46	4,600 00	2,300 00
Greenwich . . . . .	39	3,900 00	1,560 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Hampshire County — Con.</i>			
Huntington . . . . .	39	\$3,900 00	\$3,900 00
Middlefield . . . . .	38	3,800 00	570 00
Pelham . . . . .	40	4,000 00	1,600 00
Plainfield . . . . .	48	4,800 00	720 00
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	62	6,200 00	2,480 00
Westhampton . . . . .	48	4,800 00	720 00
Williamsburg . . . . .	46	4,600 00	4,600 00
Worthington . . . . .	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton . . . . .	57	5,700 00	7,125 00
Ashby . . . . .	57	5,700 00	2,850 00
Ashland . . . . .	38	3,800 00	5,700 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	30	3,000 00	3,750 00
Carlisle . . . . .	44	4,400 00	1,760 00
Dunstable . . . . .	38	3,800 00	1,520 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,600 00
Lincoln . . . . .	40	4,000 00	6,000 00
Littleton . . . . .	42	4,200 00	4,200 00
Sherborn . . . . .	42	4,200 00	4,200 00
Shirley . . . . .	46	4,600 00	5,750 00
Stow . . . . .	45	4,500 00	4,500 00
Tewksbury . . . . .	54	5,400 00	6,750 00
Townsend . . . . .	66	6,600 00	6,600 00
Tyngsborough . . . . .	41	4,100 00	3,075 00
Wilmington . . . . .	43	4,300 00	6,450 00
<i>Norfolk County:</i>			
Bellingham . . . . .	42	4,200 00	5,250 00
Medfield . . . . .	40	4,000 00	6,000 00
Medway . . . . .	44	4,400 00	6,600 00
Millis . . . . .	38	3,800 00	5,700 00
Norfolk . . . . .	41	4,100 00	4,100 00
Plainville . . . . .	34	3,400 00	4,250 00
Wrentham . . . . .	46	4,600 00	5,750 00
<i>Plymouth County:</i>			
Carver . . . . .	67	6,700 00	6,700 00
Halifax . . . . .	32	3,200 00	3,200 00
Hanson . . . . .	35	3,500 00	5,250 00
Lakeville . . . . .	45	4,500 00	3,375 00
Norwell . . . . .	47	4,700 00	4,700 00
Pembroke . . . . .	47	4,700 00	5,875 00
Plympton . . . . .	30	3,000 00	2,250 00
Rochester . . . . .	49	4,900 00	3,675 00
West Bridgewater . . . . .	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham . . . . .	77	7,700 00	5,775 00
Berlin . . . . .	39	3,900 00	2,925 00
Bolton . . . . .	53	5,300 00	2,120 00
Boylston . . . . .	40	4,000 00	2,000 00
Charlton . . . . .	110	11,000 00	5,550 00
Dana . . . . .	45	4,500 00	1,800 00
Douglas . . . . .	70	7,000 00	5,250 00
East Brookfield . . . . .	19	1,900 00	2,375 00

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Worcester County — Con.</i>			
Harvard . . . . .	56	\$5,600 00	\$4,200 00
Holden . . . . .	77	7,700 00	7,700 00
Hubbardston . . . . .	75	7,500 00	3,000 00
Lancaster . . . . .	59	5,900 00	7,375 00
Lunenburg . . . . .	65	6,500 00	4,875 00
Mendon . . . . .	36	3,600 00	2,700 00
New Braintree . . . . .	48	4,800 00	1,200 00
Northborough . . . . .	47	4,700 00	5,875 00
North Brookfield . . . . .	69	6,900 00	8,625 00
Oakham . . . . .	45	4,500 00	1,125 00
Paxton . . . . .	29	2,900 00	2,125 00
Petersham . . . . .	71	7,100 00	5,325 00
Phillipston . . . . .	41	4,100 00	1,025 00
Princeton . . . . .	72	7,200 00	2,880 00
Royalston . . . . .	67	6,700 00	3,350 00
Rutland . . . . .	68	6,800 00	3,400 00
Southborough . . . . .	48	4,800 00	7,200 00
Sterling . . . . .	72	7,200 00	3,600 00
Sturbridge . . . . .	76	7,600 00	3,800 00
Sutton . . . . .	84	8,400 00	6,300 00
Upton . . . . .	60	6,000 00	4,500 00
West Boylston . . . . .	35	3,500 00	3,500 00
West Brookfield . . . . .	53	5,300 00	3,975 00
Westminster . . . . .	77	7,700 00	3,080 00

The expenditures during the year in various counties were: —

Barnstable, \$39,725.57	Hampden, \$55,064.37
Berkshire, \$105,179.41	Hampshire, \$84,897.39
Bristol, \$31,639.31	Middlesex, \$79,442.28
Dukes, \$1,800.48	Norfolk, \$30,259.10
Essex, \$33,338.06	Plymouth, \$40,991.16
Franklin, \$107,154.39	Worcester, \$197,187.71
	Total, \$806,679.23

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$4,087.10; Dennis, \$7,947.74; Eastham, \$4,-155.93; Harwich, \$7,954.28; Mashpee, \$2,806.27; Sandwich, \$6,127.65; Truro, \$2,733.69; Wellfleet, \$3,753.65; Yarmouth, \$159.26.

*Berkshire County.* — Alford, \$2,842.29; Becket, \$7,367.80; Cheshire, \$4,-824.04; Egremont, \$3,347.93; Florida, \$4,355.97; Hancock, \$2,874.71; Hinsdale, \$3,702.04; Lanesborough, \$3,815.19; Monterey, \$5,304.94; Mount Washington, \$2,123.44; New Ashford, \$972.68; New Marlborough, \$9,090.27; Otis, \$5,059.86; Peru, \$4,367.65; Richmond, \$3,755.59; Sandisfield, \$8,652.05; Savoy, \$5,648.05; Sheffield, \$7,873.70; Tyringham, \$2,806.94; Washington, \$5,590.99; West Stockbridge, \$3,726.42; Windsor, \$7,076.86.

*Bristol County.* — Berkley, \$4,459.23; Freetown, \$4,990.09; Norton, \$6,-051.82; Rehoboth, \$11,254.25; Swansea, \$4,883.92.

*Dukes County.* — Chilmark, \$1,456.08; Edgartown, \$344.40.

*Essex County.* — Boxford, \$5,414.78; Georgetown, \$3,609.85; Groveland, \$3,-185.17; Merrimac, \$3,185.16; Middleton, \$2,972.82; Newbury, \$3,822.20; Rowley, \$3,185.17; Topsfield, \$4,034.54; West Newbury, \$3,928.37.

*Franklin County.* — Ashfield, \$8,838.84; Bernardston, \$4,299.97; Buckland, \$4,671.57; Charlemont, \$5,255.52; Colrain, \$9,183.90; Conway, \$7,007.37; Gill, \$3,795.65; Hawley, \$5,202.44; Heath, \$5,733.30; Leverett, \$2,627.76; Leyden, \$4,353.11; Monroe, \$1,911.10; New Salem, \$6,795.02; Northfield, \$7,538.23;



Rowe, \$4,353.11; Shelburne, \$4,751.21; Shutesbury, \$3,317.88; Sunderland, \$2,362.33; Warwick, \$5,839.47; Wendell, \$4,990.09; Whately, \$4,326.52.

*Hampden County.* — Blandford, \$9,705.93; Brimfield, \$6,523.68; Chester, \$3,813.48; Granville, \$8,042.54; Hampden, \$3,609.85; Holland, \$3,185.17; Monson, \$1,586.77; Montgomery, \$2,435.54; Southwick, \$5,282.07; Tolland, \$3,148.60; Wales, \$2,654.31; Wilbraham, \$76.43.

*Hampshire County.* — Belchertown, \$11,890.20; Chesterfield, \$6,157.99; Cummington, \$5,202.44; Enfield, \$3,769.10; Goshen, \$2,972.82; Granby, \$4,698.02; Greenwich, \$3,954.91; Huntington, \$4,334.67; Middlefield, \$4,430.86; Pelham, \$4,246.89; Plainfield, \$5,096.27; Prescott, \$4,140.72; Southampton, \$6,582.68; Westhampton, \$5,096.27; Williamsburg, \$4,883.92; Worthington, \$7,439.63.

*Middlesex County.* — Acton, \$6,237.62; Ashby, \$5,919.10; Ashland, \$1,502.34; Boxborough, \$2,239.17; Burlington, \$3,052.45; Carlisle, \$4,565.40; Dunstable, \$3,238.25; Holliston, \$5,388.24; Hopkinton, \$4,618.49; Lincoln, \$3,503.68; Littleton, \$4,937.01; Sherborn, \$4,512.31; Shirley, \$4,857.38; Stow, \$4,857.37; Tewksbury, \$4,671.58; Townsend, \$6,954.28; Tyngsborough, \$3,795.66; Wilmington, \$4,591.95.

*Norfolk County.* — Bellingham, \$4,459.23; Medfield, \$4,246.89; Medway, \$4,671.58; Millis, \$4,034.54; Norfolk, \$4,353.10; Plainville, \$3,609.85; Wrentham, \$4,883.91.

*Plymouth County.* — Carver, \$7,101.76; Halifax, \$3,397.51; Hanson, \$2,675.54; Lakeville, \$4,866.36; Norwell, \$4,570.69; Pembroke, \$5,956.23; Plympton, \$3,154.84; Rochester, \$5,202.31; West Bridgewater, \$4,065.92.

*Worcester County.* — Ashburnham, \$7,469.62; Berlin, \$3,309.10; Bolton, \$5,627.13; Boylston, \$4,227.72; Brookfield, \$824.44; Charlton, \$11,903.88; Dana, \$4,777.75; Douglas, \$7,782.62; East Brookfield, \$1,739.27; Harvard, \$5,945.64; Holden, \$6,768.40; Hubbardston, \$8,623.66; Lancaster, \$6,264.16; Lunenburg, \$6,950.33; Mendon, \$3,967.73; New Braintree, \$5,216.96; Northborough, \$4,990.09; North Brookfield, \$6,576.39; Oakman, \$4,801.73; Oxford, \$212.22; Paxton, \$3,249; Petersham, \$7,538.23; Phillipston, \$4,600.41; Princeton, \$7,644.40; Royalston, \$7,113.54; Rutland, \$7,664.99; Southborough, \$4,609.46; Sterling, \$7,692.32; Sturbridge, \$7,382.50; Sutton, \$9,140.76; Upton, \$4,759.11; West Boylston, \$3,938.40; West Brookfield, \$5,700.49; Westminster, \$8,175.26.

## CONTRACTS FOR THE RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF AN APPROPRIATION.

In Nov., 1926, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,442,500, this amount being twenty-five per cent of the appropriation of \$5,770,000 for the fiscal year ending Nov. 30, 1926. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 10, 1926.

## REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1925-1926.

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922 and by chapters 180 and 342, Acts of 1925, the Division adopted on Feb. 9, 1926, regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated: —

Barnstable, Bristol, Norfolk, and Plymouth Counties, Feb. 22 to Apr. 17; Essex, Hampden, Middlesex and Worcester Counties, Mar. 1, to Apr. 24; Berkshire, Franklin and Hampshire Counties, Mar. 8 to May 1.

## PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES.

Chapter 280, Acts of 1925, amended chapter 159, General Laws, by inserting after section 48, two new sections, 48A and 48B, relative to common carriers of passengers by motor vehicles. Under the provisions of section 48B no person shall operate a motor vehicle under a license granted under section 45 unless he has also obtained from the Department of Public Utilities a certificate declaring that public convenience and necessity require such operation.

In accordance with the provisions of sections 48A and 48B, 106 permits were granted during the year by the Division of Highways.

## INTERSTATE HIGHWAY ROUTES AND SIGNS.

In consequence of the adoption by the Department in 1925 of the system of inter-state routes and types of warning, directional and information signs for use on all the Federal-aid systems of highways, as approved by the Secretary of Agriculture, the Department has posted all numbered automobile routes with route numbers and on the important routes has placed direction signs at inter-sections which require information as to directions or communities on various routes. These signs have black letters, digits and border on a white background. All State highways are also posted with the necessary yellow and black warning signs and signals.

## NEWBURYPORT TURNPIKE DESIGNATED AS "THROUGH WAY."

In accordance with the authority granted by chapter 330, Acts of 1926, the Division of Highways designated the State highway, generally known as the Newburyport Turnpike, throughout its entire length as a "through way," and all necessary signs were placed at all intersecting roads along this highway so that the provisions of the act became effective on Oct. 10, 1926.

Chapter 330, Acts of 1926, provides in section 2 for an amendment to chapter 89, General Laws, by adding a new section 9, which is as follows:—

"For the purposes of this section, the division of highways of the department of public works may from time to time designate certain state highways as through ways, and may after notice revoke any such designation. Every vehicle approaching on a through way the point of its intersection with a way other than a through way so as to arrive at such point at approximately the same instant as a vehicle approaching on such other way shall as against such other vehicle have the right of way, and every vehicle immediately before entering or crossing a through way at its point of intersection with another way shall first come to a full stop, provided that whenever a traffic officer is stationed at such point he shall have the right to regulate traffic thereat. No such designation of a through way shall become effective as to regulation of traffic at such a point of intersection until the division shall have caused suitable warning signs and signals to be erected at or near such point. For the purposes of this section, a way joining a through way at an angle, whether or not it crosses the same, shall be deemed to intersect it, and the word "way," unless the context otherwise requires shall include a through or other way."

## THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW.

(Sections 29–33, chapter 93, General Laws as amended.)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, the Division of Highways was directed to make rules and regulations for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, and



on Jan. 24, 1924, the Division adopted new rules and regulations, superseding all former issues, which were contained in the report for 1924, and have continued in force during the present year.

*Applications, Licenses and Permits.* — Licenses were granted to 43 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 521 applications received for permits for the erection of advertising signs, 326 permits were granted; also 452 permits were granted for the maintenance of signs erected. Ten applications for the erection of new signs were not approved, because the locations were in violation of the rules and regulations adopted Jan. 24, 1924, and 5 applications were not approved for other reasons. A total of 43 applications for permits were cancelled.

A total of 1,769 renewal applications were sent to those whose permits were to expire June 30, 1926, and of this number 1,623 were returned to the Division requesting renewal; 94 requested that the permits be cancelled; and 1 returned application was not approved, because the location did not conform to the rules and regulations. The number of renewal applications approved to be in force until June 30, 1927, was 1,534. The total number of permits in force Nov. 30, 1926, was 1,839.

*Receipts and Expenditures.* — The total receipts for the year ending Nov. 30, 1926, were \$10,830.36, and the expenditures for the same period were \$4,729.11.

*Removal of Signs.* — A large number of signs have been removed by the Division because they were located within the layouts of State highways, and 34 signs have been removed by the owners of property or signs after inspectors of the Division had explained that the signs were erected in violation of the law.

On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, Division of Highways, for the Commonwealth of Massachusetts, and each of them, their agents, servants, representatives and attorneys, until the further order of the Court from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.* — Hearings were granted to officials of Somerville and Holyoke, who had objected to the granting of permits for advertising signs in their respective cities.

## SALE OF MAPS.

Under authority of section 1, chapter 81, General Laws, as amended by section 1, chapter 57, Acts of 1923, 81 copies of the Road Map of Massachusetts, edition of 1922, and 18 copies of the 1925 edition, and 868 copies of the 1926 edition of the Automobile Route Map of Massachusetts have been sold during the year ending Nov. 30, 1926, for which \$262 was received and paid into the treasury of the Commonwealth.

## RECOMMENDATIONS FOR LEGISLATION.

### DIVISION OF HIGHWAYS.

#### *Claims for Materials Employed in the Construction or Repair of Public Buildings and Other Public Works.*

Under the provisions of section 39 of chapter 30 of the General Laws as amended by chapter 416 of the Acts of 1922 claims against contractors on State contracts may be filed within sixty days after the completion of the work, but if the claim is disputed and the claimant fails to enter suit and secure judgment the money due the contractor may be held indefinitely. It is recommended

that the claimant bring suit within eight months from the date of completion of the work.

*Abandonment or Discontinuance of State Highways.*

Under section 12 of chapter 81 of the General Laws as amended by section 2 of chapter 427 of the Acts of 1921, a certificate and plan shall be filed in the office of the County Commissioners in the layout of a State highway or the alteration thereof, but it is also provided that in the case of a discontinuance of a State highway or an abandonment of land taken for State highway purposes a certificate and plan shall be filed in the office of the Clerk of the County Commissioners. It is recommended that the provision with respect to discontinuance and abandonments conform to the provision relating to layouts and alterations thereof.



## CONTRACT PRICES DEC. 1, 1925, TO NOV. 30, 1926.

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Plain Conc. Masonry (cu. yd.).	BIT. SURFACE.		Conc. Surf. (cu. yd.).
		Earth (cu. yd.).	Borrow (cu. yd.).	Ledge (cu. yd.).		Asphalt (gal.).	Tar (gal.).	
Agawam . . . . .	D. O'Connell's Sons, Inc. . .	\$0 90	-	\$3 00	\$25 00	-	-	\$11 50
Agawam . . . . .	D. O'Connell's Sons, Inc. . .	0 90	-	6 00	25 00	-	-	-
Amesbury and Merrimac . . . . .	Powers Bros. . . . .	0 90	-	5 00	25 00	-	-	11 25
Amherst . . . . .	Philip Keating . . . . .	1 00	\$1 00	5 00	25 00	-	\$0 20	-
Arlington . . . . .	Simpson Bros., Corp. . . . .	1 00	-	5 00	-	\$0 14	-	11 00
Ashburnham . . . . .	P. J. Keating Co. . . . .	1 15	-	3 00	20 00	-	-	-
Ashland . . . . .	B. Perini & Sons, Inc. . . . .	0 95	-	4 00	25 00	0 15	-	-
Athol . . . . .	Kelleher Corp. . . . .	1 00	-	2 50	25 00	0 155	-	-
Avon . . . . .	Powers, Taurasi & Rush . . . . .	1 10	-	4 00	-	0 16	-	-
Ayer-Littleton . . . . .	R. H. Newell Co. . . . .	0 90	1 00	4 00	25 00	-	-	-
Barnstable . . . . .	Lane Const. Corp. . . . .	0 85	0 85	5 00	25 00	-	-	-
Barnstable . . . . .	Starbuck & Thomas . . . . .	0 80	1 25	2 00	-	-	-	-
Barnstable-Mashpee . . . . .	W. A. Jones and H. L. Thomas . . . . .	0 48	0 50	0 50	18 00	-	-	-
Barre . . . . .	E. L. Gobeile, Inc. . . . .	1 00	0 85	2 50	20 00	-	0 16	-
Bedford . . . . .	Greenough Const. Co. . . . .	1 10	1 00	4 00	20 00	0 13	-	-
Bedford and Carlisle . . . . .	All bids rejected . . . . .	-	-	-	-	-	-	-
Bedford-Lexington . . . . .	James H. Fannon . . . . .	0 90	1 00	3 00	20 00	-	-	-
Bellingham . . . . .	T. J. Quinn . . . . .	0 80	-	3 00	-	0 12½	-	-
Belmont . . . . .	Lawton Const. Co. . . . .	0 75	-	4 00	-	-	-	-
Bernardston . . . . .	New Haven Road Const. Co., Inc. . . . .	0 85	0 85	2 50	20 00	0 16	-	-
Billerica . . . . .	Simpson Const. Co. . . . .	1 30	1 25	10 00	-	0 16	-	-
Blackstone . . . . .	A. D. Pasquale . . . . .	0 85	0 90	3 75	23 00	-	-	-
Boston . . . . .	J. C. Coleman & Co. . . . .	1 00	-	5 00	16 00	-	-	-
Boylston . . . . .	R. H. Newell Co. . . . .	0 90	-	2 50	20 00	0 17	-	-
Bridgewater . . . . .	Powers Bros. . . . .	1 20	1 00	3 00	14 00	0 16	-	-
Brockton-W. Bridgewater . . . . .	Carlo Bianchi & Co., Inc. . . . .	0 80	-	2 50	25 00	-	-	10 25
Canton . . . . .	Reynolds Bros., Inc. . . . .	0 90	-	1 00	-	-	-	-
Chatham . . . . .	Amos D. Bridge's Sons, Inc. . . . .	0 60	0 65	0 60	20 00	-	-	-
Chelmsford-Westford . . . . .	Antonio Pallato . . . . .	1 00	1 10	4 00	25 00	0 15	-	-
Cheshire . . . . .	Lane Const. Corp. . . . .	0 85	0 85	3 00	25 00	-	-	10 50
Conway . . . . .	P. J. Kennedy & Co., Inc. . . . .	1 00	0 85	5 00	25 00	-	-	-
Dartmouth . . . . .	Greaney & Sherry . . . . .	0 98	-	3 00	20 00	0 16	-	10 25
Dedham . . . . .	F. F. McCarthy Co. . . . .	1 25	-	5 00	-	-	-	-
Dennis . . . . .	Frank C. Taylor . . . . .	-	-	-	-	-	-	-
Dennis . . . . .	Lane Const. Corp. . . . .	0 60	0 60	0 60	25 00	-	-	-
East Bridgewater . . . . .	Washburn & Sheridan Const. Co. . . . .	0 70	-	5 00	-	-	0 14	-
East Bridgewater . . . . .	Washburn & Sheridan Const. Co. . . . .	1 00	-	5 00	25 00	-	0 14	-
East Brookfield . . . . .	Eng. Service & Const. Co. . . . .	1 50	1 25	5 00	25 00	0 17	-	-
Edgartown-Oak Bluffs and Tisbury . . . . .	M. F. Roach . . . . .	0 60	0 60	3 00	8 00	-	-	-
Enfield . . . . .	D. O'Connell's Sons, Inc. . . . .	1 10	1 12	3 00	23 00	-	-	-
Framingham . . . . .	B. Perini & Sons, Inc. . . . .	1 00	-	3 00	25 00	-	-	-
Freetown . . . . .	Canedy Const. Co. . . . .	1 25	-	5 00	-	-	-	-
Gill . . . . .	Kelleher Corp. . . . .	1 00	-	3 00	25 00	-	-	-
Goshen and Williamsburg . . . . .	Lane Const. Corp. . . . .	0 90	1 25	3 00	22 00	0 15	-	-
Grafton . . . . .	Timothy Toomey . . . . .	1 15	-	2 50	25 00	-	0 16	-
Hamilton . . . . .	Welch & Moynihan . . . . .	1 10	-	4 00	25 00	-	-	-
Hanson . . . . .	Otis R. Mann . . . . .	1 25	1 25	5 00	20 00	-	-	-
Harwich . . . . .	Washburn and Sheridan . . . . .	0 75	0 70	5 00	25 00	-	-	-
Hingham and Weymouth . . . . .	Lane Const. Co. . . . .	1 10	1 20	3 00	30 00	0 13	-	-
Hinsdale . . . . .	Richmond Foundation Co. . . . .	1 00	0 80	5 00	20 00	-	-	-
Holbrook . . . . .	Powers Bros. . . . .	1 00	1 00	3 00	-	-	-	-
Holliston . . . . .	Cenedella & Co. . . . .	0 95	0 95	3 00	22 00	-	-	-
Ipswich . . . . .	Taylor & Dempsey . . . . .	1 00	1 20	3 50	30 00	-	-	-
Lakeville . . . . .	Z. L. Canedy . . . . .	1 00	1 00	7 00	15 00	0 15	-	-
Lancaster . . . . .	Milliken & Armstrong . . . . .	1 50	-	10 00	25 00	-	0 18	-
Lancaster . . . . .	Beaver Const. Co. . . . .	-	-	-	35 00	-	-	-
Lee . . . . .	C. B. Lindholm . . . . .	1 40	-	1 40	30 00	-	0 20	-
Lenox-Lee-Stockbridge . . . . .	Lane Const. Corp. . . . .	1 10	1 35	2 00	25 00	-	-	10 15
Leominster-Sterling . . . . .	G. Rosse & Son . . . . .	0 85	0 89	1 25	15 00	-	-	-
Lexington . . . . .	Perini & Ampolini . . . . .	0 85	-	5 00	-	0 14	-	-
Lynn . . . . .	M. McDonough Co. . . . .	-	-	-	-	-	-	-
Marshfield . . . . .	M. F. Roach . . . . .	0 65	0 70	5 00	20 00	-	-	28 00
Medford . . . . .	Greenough Const. Co. . . . .	-	0 75	-	-	-	-	-
Medfield . . . . .	Octavius Menici . . . . .	0 90	1 00	1 50	-	0 16	-	-
Medford . . . . .	Hill-Woodward Const. Co. . . . .	-	-	10 00	14 00	-	-	-
Medway . . . . .	Arthur De Pasquale . . . . .	0 80	-	4 00	-	-	0 14	-
Methuen . . . . .	P. J. Holland . . . . .	1 10	-	4 00	20 00	-	-	11 00
Middleborough . . . . .	Milliken & Armstrong, Inc. . . . .	1 25	1 25	5 00	22 00	-	-	-
Middleborough . . . . .	Powers Bros. . . . .	0 90	0 90	3 00	20 00	0 15	-	-
Millbury . . . . .	C. E. Horne . . . . .	1 00	-	3 00	25 00	-	-	11 00
Millis . . . . .	W. H. Hinman, Inc. . . . .	0 90	-	4 00	-	0 145	-	-

CONTRACT PRICES DEC. 1, 1925, TO NOV. 30, 1926.

Broken Stone (ton).	PIPE CULVERTS (lin. ft.).							Fencing (lin. ft.).	Stone Filling (cu. yd.).	Bounds (each).	Catch Basins (each).	Rein. Conc. Ma- sonry (cu. yd.).	Gravel Borrow (cu. yd.).
	CLAY.			CORR. IRON.									
	10 In.	12 In.	15 In.	12 In.	14 In.	16 In.	18 In.						
-	\$1 00	\$1 25	\$1 65	-	-	-	-	\$0 60	-	\$5 00	\$80 00	\$35 00	\$1 85
\$2 30	0 35	0 70	0 92	-	-	-	-	-	\$3 75	-	75 00	-	1 80
4 00	-	-	-	-	-	-	-	0 70	-	5 00	80 00	35 00	1 30
3 00	-	-	-	-	-	-	-	0 70	2 50	5 00	-	27 00	1 50
2 50	-	1 50	-	-	-	-	-	-	-	-	75 00	-	1 25
3 60	-	-	-	-	-	-	-	-	2 60	-	90 00	30 00	1 45
3 40	-	1 50	1 60	-	-	-	-	0 65	-	-	90 00	37 00	1 20
3 70	1 50	1 50	-	-	-	-	-	0 60	2 50	5 00	90 00	35 00	1 15
3 25	-	-	-	-	-	-	-	0 75	2 00	-	-	-	1 25
3 20	-	1 50	-	-	-	-	-	0 65	-	5 00	90 00	30 00	1 10
-	-	-	-	-	-	-	-	0 70	-	-	-	-	-
-	-	-	-	-	-	-	-	0 70	-	-	-	-	-
-	-	-	-	-	-	-	-	0 60	-	4 00	-	30 00	-
3 75	-	-	-	\$1 75	\$2 00	-	\$2 50	0 60	2 20	-	-	25 00	0 85
2 90	-	1 50	-	-	-	-	-	0 50	-	-	70 00	-	1 40
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 65	-	1 75	-	-	-	-	-	0 75	-	5 00	80 00	30 00	1 15
2 95	1 50	1 50	-	-	-	-	-	-	2 48	-	88 00	-	1 15
2 50	1 50	-	-	-	-	-	-	-	-	-	100 00	35 00	1 45
3 00	-	1 50	1 75	-	-	-	-	0 65	2 60	-	100 00	30 00	1 20
3 50	-	-	-	-	-	-	-	1 00	-	-	-	47 00	1 50
-	-	1 30	-	-	-	-	-	-	-	-	75 00	30 00	1 35
2 75	0 65	0 75	1 00	-	-	-	-	0 80	-	7 00	80 00	23 00	1 70
3 60	-	1 50	-	-	-	-	-	-	2 50	-	85 00	35 00	0 95
3 65	1 50	1 50	-	-	-	-	-	0 65	-	5 00	80 00	30 00	1 50
3 40	-	-	-	-	-	-	-	0 75	-	-	85 00	60 00	0 90
3 25	1 25	-	-	-	-	-	-	0 60	3 00	-	90 00	-	1 00
-	-	-	-	-	-	-	-	0 60	-	-	85 00	-	-
3 25	-	1 50	1 75	-	-	-	-	0 75	-	5 00	90 00	30 00	1 00
3 50	-	1 50	-	-	-	-	-	0 60	-	6 00	100 00	35 00	0 90
-	-	-	-	-	-	-	-	0 65	-	5 00	-	30 00	1 10
3 70	1 40	1 50	1 65	-	-	-	-	1 00	-	5 00	80 00	40 00	1 20
3 80	1 50	-	-	-	-	-	-	-	-	-	85 00	36 00	1 50
-	-	-	-	-	-	-	-	1 50	-	-	-	-	-
-	-	-	-	-	-	-	-	0 70	-	-	100 00	-	-
2 10	-	-	-	2 00	-	-	-	-	-	-	75 00	-	1 00
2 50	-	-	-	2 00	-	-	-	1 00	-	-	75 00	-	1 25
4 50	-	-	-	-	-	-	-	-	-	5 00	100 00	27 00	1 60
-	-	-	-	2 00	-	-	-	0 60	-	-	-	25 00	-
3 40	-	1 75	-	-	-	-	3 40	0 60	2 30	-	-	35 00	1 50
3 25	-	1 30	-	-	-	-	-	-	-	-	85 00	-	1 00
2 75	1 40	-	-	-	-	-	-	-	2 50	-	80 00	-	1 25
-	-	1 50	-	1 75	-	-	3 00	0 60	2 50	-	100 00	35 00	1 60
3 20	-	-	-	-	-	-	-	0 60	2 40	6 00	100 00	35 00	1 45
3 45	2 00	-	-	2 25	-	-	-	-	2 40	-	90 00	25 00	1 15
2 65	2 00	-	-	-	-	-	-	-	-	-	75 00	-	1 18
-	-	-	-	2 00	-	-	-	-	-	-	75 00	-	1 25
-	-	-	-	-	-	-	-	0 70	-	-	-	-	-
3 20	1 25	1 50	1 75	-	-	-	-	0 60	3 00	5 00	80 00	35 00	1 20
3 50	-	-	-	-	-	-	-	0 70	2 50	7 00	-	35 00	1 00
3 00	-	-	-	-	-	-	-	0 70	2 90	-	-	-	1 40
3 15	-	1 40	-	-	-	-	-	0 60	-	5 00	80 00	30 00	1 10
-	-	-	-	-	-	-	-	0 80	-	-	-	35 00	1 25
3 00	-	-	-	2 00	-	-	-	0 75	-	-	75 00	-	1 50
-	-	-	-	-	-	-	-	0 75	-	-	-	50 00	3 00
-	-	-	-	-	-	-	-	-	-	-	-	-	2 50
3 35	-	-	-	-	-	-	3 00	0 80	-	-	-	40 00	1 50
3 60	1 50	1 50	2 25	-	-	-	-	0 70	-	5 00	100 00	30 00	1 35
3 55	-	1 40	-	-	-	-	-	0 50	2 35	4 00	50 00	20 00	0 95
2 80	-	1 40	-	-	-	-	-	0 60	-	5 00	100 00	-	1 15
-	-	-	-	-	-	-	-	-	-	-	-	-	2 50
3 25	-	1 43	-	-	-	-	-	0 60	-	5 00	70 00	28 00	0 75
-	-	-	-	-	-	-	-	-	-	-	-	-	1 25
3 20	-	-	-	-	-	-	-	0 60	-	-	-	-	1 00
2 75	-	-	-	-	-	-	-	1 00	-	-	-	25 00	1 50
-	1 50	-	-	-	-	-	-	0 65	2 50	-	75 00	-	1 25
-	2 00	-	-	-	-	-	-	0 70	-	-	75 00	-	1 50
3 75	-	-	-	-	-	-	-	0 75	-	-	90 00	35 00	2 50
3 65	-	-	-	-	-	-	2 60	0 70	-	-	-	-	1 00
-	-	2 00	2 25	-	-	-	-	-	-	-	100 00	-	1 25
3 25	1 25	1 25	-	-	-	-	-	1 00	3 50	-	90 00	40 00	1 00



CONTRACT PRICES DEC. 1, 1925, TO NOV. 30, 1926 — *Concluded.*

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Plain Conc. Masonry (cu. yd.).	BIT. SURFACE.		Conc. Surf. (cu. yd.).
		Earth (cu. yd.).	Borrow (cu. yd.).	Ledge (cu. yd.).		Asphalt (gal.).	Tar (gal.).	
Millis . . . . .	W. H. Hinman, Inc.	\$1 00	\$1 00	\$1 00	-	-	-	-
Monson . . . . .	New Haven Road Const. Co.	0 80	0 85	2 50	\$22 00	\$0 15	-	-
Nantucket . . . . .	M. F. Roach . . . . .	0 50	0 70	0 50	18 00	-	-	-
New Ashford . . . . .	C. B. Lindholm . . . . .	1 00	1 00	7 00	35 00	-	-	-
Newbury . . . . .	Welch & Moynihan . . . . .	1 75	2 00	5 00	25 00	-	-	-
Newburyport . . . . .	Cashman Bros., Co.	-	-	-	-	-	-	-
North Attleborough . . . . .	Hudson Const. & Supply Co., Inc.	0 85	-	3 00	25 00	0 13	-	\$10 25
Northfield . . . . .	Kelleher Corp. . . . .	0 85	-	0 85	22 50	-	-	-
Norwell . . . . .	A. W. Loud . . . . .	1 20	1 20	6 00	-	-	-	-
Norwell . . . . .	A. Caschia & H. F. Cole . . . . .	1 25	1 25	10 00	-	0 155	-	-
Norwood . . . . .	Perini & Ampolini . . . . .	0 85	-	1 50	-	0 135	-	10 50
Peru-Worthington . . . . .	B. Perini & Sons, Inc.	0 90	1 75	3 00	25 00	-	-	-
Paxton and Worcester . . . . .	D'Onfro Bros., Inc.	1 00	1 00	3 00	20 00	0 15	-	-
Plainville . . . . .	Frank B. Manning . . . . .	0 95	-	4 00	20 00	-	-	10 40
Plympton . . . . .	D. J. Roach . . . . .	0 80	0 70	4 00	20 00	-	-	-
Princeton . . . . .	Holmes and Reynolds . . . . .	0 85	-	3 50	20 00	-	-	-
Quincy . . . . .	E. C. Sargent . . . . .	0 80	1 00	3 00	17 00	-	-	-
Randolph . . . . .	Powers Bros. . . . .	0 75	-	3 00	-	-	-	-
Raynham . . . . .	F. L. McNeil . . . . .	0 90	-	2 00	20 00	0 15	-	-
Reading . . . . .	M. McDonough Co. . . . .	1 25	-	5 00	-	-	-	-
Revere and Saugus . . . . .	M. McDonough Co. . . . .	1 50	-	-	-	0 12	-	-
Rockport . . . . .	L. Luchini & Son . . . . .	1 40	-	5 75	20 00	0 16	-	-
Rochester . . . . .	J. R. Saucier . . . . .	0 80	0 80	3 00	15 00	-	-	-
Sandwich . . . . .	Washburn and Sheridan . . . . .	1 00	0 80	5 00	20 00	-	-	-
Sandwich . . . . .	Powers Bros. . . . .	1 50	1 00	5 00	20 00	-	-	-
Saugus . . . . .	Greenough Const. Co. . . . .	1 00	1 10	4 00	20 00	0 13	-	-
Savoy . . . . .	Warner Bros. . . . .	0 90	1 00	5 00	-	-	-	-
Seekonk . . . . .	T. J. Quinn . . . . .	1 00	1 00	3 00	25 00	0 125	-	-
Seekonk . . . . .	Lane Const. Corp. . . . .	0 70	0 70	3 00	25 00	-	-	-
Sharon . . . . .	Unity Const. Co. . . . .	0 90	-	3 00	-	0 145	-	-
Sharon . . . . .	Charles E. Horne . . . . .	1 10	1 10	5 00	25 00	0 16	-	-
Shirley . . . . .	Fitchburg Concrete Const. Co.	0 90	-	2 25	18 00	0 17	-	-
Somerset . . . . .	B. Perini & Sons, Inc.	0 95	-	4 00	-	-	-	-
Somerset and Swansea . . . . .	Luke H. Callan . . . . .	0 85	1 00	3 00	18 00	0 15	-	10 25
Southborough . . . . .	R. H. Newell Co. . . . .	0 90	-	2 50	20 00	0 155	-	-
Southborough . . . . .	R. H. Newell Co. . . . .	0 90	-	2 50	20 00	0 155	-	-
Southbridge . . . . .	Indian Head Const. Co. . . . .	0 90	1 50	4 00	22 00	-	-	-
Sterling . . . . .	Phipps Bros. Co. . . . .	0 85	1 00	3 00	20 00	-	-	-
Stockbridge . . . . .	Lane Const. Corp. . . . .	1 15	0 90	3 00	25 00	0 15	-	-
Stoughton . . . . .	Reynolds Bros. Co. . . . .	0 85	-	3 00	20 00	-	-	-
Stow . . . . .	P. J. Keating Co. . . . .	1 00	-	1 10	20 00	-	-	-
Swampscott . . . . .	Simpson Bros., Inc. . . . .	1 20	-	10 00	-	-	-	12 00
Walpole . . . . .	Washburn & Sheridan . . . . .	0 70	0 70	5 00	25 00	-	-	-
Wareham . . . . .	S. W. Lawrence . . . . .	1 00	0 70	5 00	20 00	-	-	-
Webster . . . . .	Timothy Toomey . . . . .	1 25	-	-	30 00	-	\$0 20	-
Webster . . . . .	C. A. Haggerty . . . . .	1 10	-	0 05	-	-	-	12 30
Webster . . . . .	Readvertised . . . . .	-	-	-	-	-	-	-
Webster . . . . .	B. Perini & Sons, Inc.	1 00	1 00	4 00	20 00	-	0 20	-
Wenham . . . . .	Welch & Moynihan . . . . .	1 10	1 15	4 00	-	-	-	-
Westborough . . . . .	H. & J. P. Greene Co. . . . .	1 10	-	2 00	25 00	-	-	-
W. Bridgewater . . . . .	Washburn & Sheridan . . . . .	0 70	0 70	3 00	20 00	-	0 13	-
W. Brookfield . . . . .	A. G. Bianchi & Co. . . . .	0 80	0 85	3 00	25 00	0 15	-	-
Westminster and Winchendon . . . . .	A. W. Loud . . . . .	0 90	0 90	5 00	25 00	0 15	-	-
Weston . . . . .	Middlesex Const. Co. . . . .	1 00	1 00	5 00	25 00	0 13	-	-
Westwood . . . . .	Unity Const. Co. . . . .	0 95	0 95	5 00	-	-	-	-
Williamstown . . . . .	Richard Hopkins Co. . . . .	1 05	-	1 05	25 00	-	-	-
Wilmington . . . . .	B. H. Kerstein . . . . .	1 00	1 20	7 00	15 00	-	-	-
Winchendon . . . . .	Chas. E. Horne . . . . .	0 88	0 88	3 00	25 00	0 17	-	-
Winchendon . . . . .	P. J. Keating Co. . . . .	0 85	0 85	5 00	20 00	-	-	-
Yarmouth . . . . .	Lane Const. Corp. . . . .	0 60	0 60	0 60	25 00	-	-	-

CONTRACT PRICES DEC. 1, 1925, TO NOV. 30, 1926 — *Concluded.*

Broken Stone (ton).	PIPE CULVERTS (lin. ft.)							Fencing (lin. ft.).	Stone Filling (cu. yd.).	Bounds (each).	Catch Basins (each).	Rein. Conc. Ma-sonry (cu. yd.).	Gravel Borrow (cu. yd.).
	CLAY.			CORR. IRON.									
	10 In.	12 In.	15 In.	12 In.	14 In.	16 In.	18 In.						
-	-	-	-	\$2 00	-	-	\$2 50	\$0 75	\$3 00	-	-	-	\$2 00
\$3 25	-	\$1 50	-	-	-	-	-	0 70	2 35	\$5 00	\$100 00	\$32 00	1 20
-	-	-	-	2 00	-	-	-	0 65	-	-	-	-	-
-	-	-	-	3 00	-	-	-	1 00	3 50	-	-	-	1 10
-	-	2 00	-	-	-	-	-	-	-	-	-	-	2 25
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 45	\$1 30	1 40	-	-	-	-	-	-	-	4 00	90 00	-	1 05
3 25	-	1 50	\$1 75	-	-	-	-	0 60	2 80	6 00	-	35 00	1 35
3 10	-	-	-	2 50	-	-	-	-	0 75	-	100 00	-	1 20
3 25	-	-	-	-	-	-	-	-	-	-	-	-	1 25
3 40	1 00	1 20	1 60	-	-	-	-	-	-	-	65 00	-	1 25
-	-	-	-	-	-	-	-	-	0 60	2 50	-	35 00	1 65
3 50	-	3 25	-	-	-	-	-	0 75	3 00	5 00	100 00	35 00	1 65
3 60	1 40	1 50	-	-	-	-	-	-	-	5 00	90 00	-	1 15
-	-	-	-	2 00	-	-	-	0 60	-	-	-	30 00	0 90
-	-	-	-	-	-	-	-	-	2 20	2 00	-	38 00	0 95
3 10	1 40	1 55	1 90	-	-	-	-	0 70	-	4 00	80 00	-	1 20
-	1 40	-	-	-	-	\$2 00	-	0 60	2 00	-	80 00	-	1 20
3 40	1 10	1 20	1 40	-	\$2 25	-	-	-	-	-	75 00	-	1 10
2 25	-	-	-	-	-	-	-	-	-	-	-	-	1 60
1 60	-	-	-	-	-	-	-	0 70	-	-	-	-	2 00
2 80	-	1 80	-	-	-	-	-	-	-	-	-	-	2 00
-	-	-	-	1 55	-	-	-	0 75	-	-	90 00	28 00	2 00
2 60	-	-	-	1 75	-	-	-	0 60	-	-	70 00	-	1 15
-	-	-	-	-	-	-	-	0 60	-	-	75 00	-	1 25
2 00	-	-	-	-	-	-	-	1 00	-	-	-	40 00	2 00
-	-	-	-	-	-	-	-	-	-	-	-	25 00	1 30
2 95	1 50	1 50	-	2 00	-	-	2 50	-	2 50	-	-	-	-
2 85	1 25	1 25	1 50	2 00	-	-	-	-	-	-	85 00	25 00	1 25
3 60	1 40	-	-	-	-	-	-	0 60	-	5 00	85 00	-	0 90
3 75	-	-	-	-	-	-	-	-	2 50	-	90 00	-	1 25
-	-	-	-	-	-	-	-	0 60	-	5 00	100 00	-	1 10
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 50	-	1 75	-	-	-	-	-	0 48	-	-	85 00	25 00	1 00
3 25	-	-	-	2 50	-	-	-	-	2 50	-	100 00	-	1 55
3 75	-	-	-	-	-	-	-	0 60	-	3 00	80 00	35 00	1 10
3 55	-	1 50	-	-	-	-	-	-	2 50	-	-	40 00	1 00
3 55	-	-	-	2 00	-	-	-	-	2 50	-	90 00	40 00	1 00
3 40	-	1 50	-	-	-	-	-	-	2 50	-	100 00	35 00	1 15
-	-	-	-	-	-	-	2 30	-	2 50	-	-	25 00	1 35
3 35	1 50	1 50	-	2 25	-	-	-	0 70	2 40	-	-	45 00	1 30
3 25	1 15	1 40	-	-	-	-	-	0 60	3 00	-	90 00	25 00	1 05
3 45	-	1 40	-	-	-	-	-	0 70	-	-	80 00	35 00	1 25
-	-	2 00	-	-	-	-	-	-	-	-	100 00	-	1 50
2 10	-	-	-	-	-	-	2 50	0 70	-	-	75 00	35 00	0 85
-	-	-	-	1 75	-	-	-	0 60	-	-	-	-	-
3 90	-	3 00	-	-	-	-	-	-	2 60	-	90 00	-	2 00
-	-	-	-	-	-	-	-	-	-	-	-	-	1 35
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 75	-	-	-	1 75	-	-	-	-	2 75	-	-	40 00	1 50
2 65	-	1 60	-	-	-	-	2 80	0 85	-	-	75 00	28 00	1 15
3 60	-	-	-	-	-	-	-	-	2 60	-	90 00	-	1 10
2 50	-	-	-	1 50	-	-	-	0 60	-	-	75 00	-	0 85
3 10	-	-	-	-	-	-	-	0 55	2 30	-	100 00	34 00	0 85
-	-	-	-	-	-	-	-	0 70	2 25	5 00	-	31 50	0 90
2 60	-	-	-	-	-	-	-	0 60	-	-	-	40 00	1 05
3 25	1 50	-	-	-	-	-	-	0 75	2 00	-	-	80 00	1 10
-	-	-	-	-	-	-	-	-	2 50	5 00	-	32 00	1 40
2 85	-	-	-	-	-	-	-	0 75	-	-	-	-	1 20
3 80	-	-	-	-	-	-	-	-	2 75	-	-	35 00	1 10
3 50	-	1 40	-	-	-	-	-	-	2 60	5 00	75 00	35 00	1 30
-	-	-	-	-	-	-	-	0 70	-	-	100 00	-	1 25



REGISTRY OF MOTOR VEHICLES.

The work of the Registry of Motor Vehicles for the year exceeded that for the previous year, particularly in regard to the number of registrations of motor vehicles and of licenses to operate. The Registrar has also continued his activities in the endeavor to safeguard the motorists and pedestrians on the highways.

The outstanding figures for the year are as follows: —

Registrations and number plates issued (passenger and commercial cars and motor cycles) . . . . .	835,439
Licenses to operate issued . . . . .	763,951
Examinations of applicants for licenses . . . . .	153,053
Cash receipts . . . . .	\$12,652,781.86
Licenses and registrations revoked and suspended . . . . .	18,705
Licenses revoked for driving under influence of liquor . . . . .	4,863
Offenders prosecuted in courts . . . . .	812

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS.

The number of deaths caused by motor vehicles in 1926 was 705, a decrease of 50 as compared with the previous year. The number of persons killed and injured in motor vehicle accidents in 1925 and 1926 was as follows: —

MOTOR VEHICLE ACCIDENTS TO PERSONS.

	PERSONS KILLED.		PERSONS INJURED.	
	1925.	1926.	1925.	1926.
Pedestrians by autos . . . . .	432	455	13,645	14,260
Pedestrians by motor cycles . . . . .	6	0	23	11
Pedestrians near street cars . . . . .	17	11	25	10
Occupants of autos . . . . .	222	166	10,090	9,544
Occupants of autos at railroad crossings . . . . .	17	24	—	—
Occupants of motor cycles . . . . .	40	19	564	414
Bicycle riders . . . . .	10	16	872	690
Occupants of carriages, etc. . . . .	3	5	312	227
Coasters . . . . .	8	9	205	195
Totals . . . . .	755	705	25,736	25,351

	CHILDREN KILLED.		CHILDREN INJURED.	
	1925.	1926.	1925.	1926.
Boys . . . . .	175	160	4,713	5,253
Girls . . . . .	58	74	1,886	2,119
Totals . . . . .	233	234	6,599	7,372

NUMBER OF COLLISIONS.

	1925.	1926.
Autos v. pedestrians . . . . .	13,300	14,047
Autos v. autos . . . . .	13,099	10,516
Autos v. carriages, etc. . . . .	427	276
Autos v. bicycles . . . . .	895	693
Autos v. trolley cars . . . . .	384	308
Autos v. poles, trees, etc. . . . .	1,071	934
Autos v. trains . . . . .	53	61
Autos v. motor cycles . . . . .	541	420
Autos v. sleds . . . . .	184	170
Motor cycles v. pedestrians . . . . .	22	11
Totals . . . . .	29,976	27,436

P.D. 54		49
	1925.	1926.
In the daytime . . . . .	22,029	19,654
After dark . . . . .	7,947	7,782
Totals . . . . .	29,976	27,436

ACCIDENT REPORT LETTERS.

In accordance with the provisions of section 26, chapter 90, General Laws, every operator of a motor vehicle, which is in any manner involved in an accident in which any person is killed or injured, is required to report in writing to the Registrar. The number of these accident reports received in 1926 was 33,399, as compared with 32,150 received in 1925.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS.

YEAR.	Auto- mobiles Regis- tered.	Motor- cycles Regis- tered.	Total Regis- trations.	Number of Persons Killed.	Ratio num- ber of Reg- istrations per Person Killed.	Number of Persons Injured.	Ratio num- ber of Reg- istrations per Person Injured.	Total Suspensions and Rev- ocations.	For opera- ting under Influence of Liquor.
1910	31,360	3,358	34,718	77	450	963	36	283	22
1911	38,907	3,658	42,565	110	386	1,248	34	360	14
1912	50,132	5,034	55,166	142	388	1,962	28	546	56
1913	62,660	7,127	69,787	188	371	2,923	23	608	87
1914	77,246	8,161	85,407	229	372	4,010	21	858	131
1915	102,633	9,520	112,153	294	381	6,197	18	1,153	202
1916	136,809	10,713	147,522	315	468	9,131	16	1,396	320
1917	174,274	11,065	185,339	438	423	7,282	25	1,831	485
1918	193,497	12,862	206,359	499	413	8,598	24	2,343	553
1919	247,183	13,698	260,881	582	448	16,287	16	2,156	554
1920	304,631	15,143	319,774	481	664	21,182	15	2,944	888
1921	360,731	12,058	372,790	544	685	11,487	32	4,899	1,508
1922	449,838	11,675	461,513	522	884	15,277	30	8,369	2,460
1923	566,150	11,733	577,883	578	999	16,217	35	11,613	3,333
1924	672,315	10,778	683,093	709	963	19,579	34	14,154	4,395
1925	764,338	10,333	774,671	755	1,026	25,736	30	16,249	4,654
1926	826,224	9,215	835,439	705	1,185	25,351	32	18,705	4,863

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS.

Investigations and examinations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, head-light violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation of the classification of reports: —

Classification of Reports.

	1925.	1926.
Accidents, fatal . . . . .	716	679
Accidents, non-fatal . . . . .	1,304	1,385
Accidents, brief reports . . . . .	925	1,082
General reputation . . . . .	1,384	1,867
Miscellaneous . . . . .	4,543	5,349
Totals . . . . .	8,872	10,362
Complaints filed . . . . .	8,346	15,310
Garages inspected . . . . .	1,165	194
Headlight violations reported . . . . .	51,629	68,595
Prosecutions conducted . . . . .	643	812
Fines imposed . . . . .	\$30,124	\$34,125

ANALYSIS OF COURT ABSTRACTS RECEIVED.

	1925.	1926.
Number of courts forwarding abstracts . . . . .	95	95
Number of abstracts received (convictions) . . . . .	32,382	32,280



<i>Offences.</i>		1925.	1926.
(Analysis of guilty cases, not including appeals.)			
Overspeeding . . . . .		10,239	10,109
Reckless . . . . .		184	158
Intoxicated . . . . .		3,515	3,654
Using auto without authority . . . . .		1,013	741
Endangering lives . . . . .		1,462	1,654
Not stopping after causing injury . . . . .		481	468
Without license . . . . .		4,425	3,997
Without registration certificate . . . . .		1,862	1,462
Unregistered vehicle . . . . .		437	491
Improper display or no registration number . . . . .		549	558
Refusing to stop on signal . . . . .		565	422
Unlighted lamps . . . . .		1,016	710
No signal . . . . .		1,041	284
Operating within 8 feet of street car . . . . .		412	279
Violation of metropolitan park rules . . . . .		325	399
Operating after suspension or revocation of license . . . . .		316	340
Larceny . . . . .		236	284
Manslaughter . . . . .		5	2
Miscellaneous . . . . .		3,290	4,353
Lenses not approved . . . . .		151	379
Landing aircraft unlawfully . . . . .		1	—
No reflector . . . . .		104	100
Racing . . . . .		5	3
Operating after revocation of registration certificate . . . . .		4	2
No rear light . . . . .		189	242
Not displaying lights . . . . .		—	191
Violation spot-light law . . . . .		2	1
Improper lights . . . . .		96	461
Brakes not as required by law . . . . .		313	249
Notice of sale not sent . . . . .		3	6
Perjury . . . . .		7	2
Making false statements on license application, falsely impersonating or conspiring to obtain a license . . . . .		102	212
Loaning license to another . . . . .		32	13
Allowing intoxicated person to operate . . . . .		—	12
No wind-shield cleaner . . . . .		—	3
Attempted larceny . . . . .		—	39

## REVOCATIONS AND SUSPENSIONS.

	1925.	1926.
Licenses suspended . . . . .	5,772	6,706
Licenses revoked . . . . .	2,612	3,025
Rights suspended . . . . .	2,628	3,536
Registration certificates suspended . . . . .	19	30
Registration certificates revoked . . . . .	3,092	3,374
Registration certificates and licenses suspended . . . . .	79	83
Registration certificates and licenses revoked . . . . .	1,865	1,732
Registration certificates revoked and rights suspended . . . . .	161	162
Rights to have cars operated in Massachusetts suspended . . . . .	21	57
Totals . . . . .	16,249	18,705
Resulting from investigations . . . . .	8,331	9,842
Resulting from convictions . . . . .	7,032	8,050
Resulting from police complaints . . . . .	592	735
Resulting from judges' complaints . . . . .	69	47
Resulting from State police complaints . . . . .	225	31
Totals . . . . .	16,249	18,705

*Character of Offences.*

	1925.	1926.
Reckless and endangering . . . . .	1,335	1,357
Liquor convictions . . . . .	3,714	3,893
Going away after accidents . . . . .	359	361
Without authority . . . . .	612	575
Racing . . . . .	2	4
Improper person . . . . .	3,211	5,006
Improper person, liquor . . . . .	940	970
Improper operation . . . . .	2,948	3,398
Two overspeeds . . . . .	368	335
Three overspeeds . . . . .	28	21
Improper equipment, miscellaneous . . . . .	188	352
Improper equipment, lights . . . . .	526	1,051
Improper equipment, brakes . . . . .	1,197	474
Deaths (Fatal Accidents) . . . . .	697	682
Other offences . . . . .	124	226
Totals . . . . .	16,249	18,705
Hearings . . . . .	5,091	5,655

Court recommendations adopted: —

Liquor . . . . .	58	1
Reckless and endangering . . . . .	30	35
Going away after accidents . . . . .	9	5
Without authority . . . . .	1	0
Totals . . . . .	98	41

Persons whose licenses were suspended or revoked and who had to pass examinations in order to have them returned . . . . .	2,316	2,761
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EXAMINATIONS FOR LICENSES.

Examinations of applicants for licenses to operate motor vehicles were held at numerous points in the State, and the tabulation below gives the classes and results of such examinations: —

	1925.	1926.
Operators passed . . . . .	113,498	108,269
Operators unfit . . . . .	26,317	29,083
Restriction removal, passed . . . . .	13,824	15,084
Restriction removal, unfit . . . . .	1,267	1,360
"Competency," passed . . . . .	266	498
"Competency," unfit . . . . .	28	42
Total examinations . . . . .	155,200	154,836

HEADLIGHTING.

Five complete headlamps were approved by the Registrar during the year in accordance with the provisions of section 7, chapter 90, General Laws, as amended. Many other headlamps and devices in various stages of development, as well as drawings and blue prints, were submitted for consideration. They were criticized for failure to comply with the intent of the Massachusetts laws for various reasons. The Registrar adhered to his practice of considering only complete headlamps for approval, and the result is a great improvement in headlighting equipment supplied by the car manufacturer, because it requires the lamp manufacturer's attention to details of construction which might affect the performance of the lamp. Every effort is being directed towards the better construction, and particularly to simplified focusing adjustment of headlamps



so that a more complete compliance with the intent of the law will obtain in practice.

During the year inspectors of the Registry have reported approximately 150,000 violations of laws relating to lights and brakes, compared with approximately 75,000 for last year.

#### REAR LAMPS.

Eighteen rear lamps were approved by the Registrar during the year. Five of these were single lamps, eight were combined with stop signals only and five were combined with both stop signals and backing lights.

#### BRAKES.

The inspectors of motor vehicles have done considerable work on the enforcement of the law relative to brakes which is accomplished by the use of brake testing instruments, of which the Department owns thirty-three. A number of cases of serious defects in brake equipment resulted in revocation of registrations, so that the cars could not be operated until the braking equipment was made effective. In order to facilitate brake inspection and adjustment and as a convenience to the public, the Registry has continued to examine and approve applicants as competent to adjust and test brakes, and accepts their certification that defective braking equipment has been rectified.

#### EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS.

Representatives of the Department attended meetings of the Eastern Conference of Motor Vehicle Administrators in January at New York City, and in April, at Wilmington, Delaware. Various matters relating to uniformity of State action were discussed and administration ideas interchanged.

#### AIRCRAFT REGISTRATIONS.

(Chapter 90, General Laws, as amended by chapter 534, Acts of 1922, and chapter 189, Acts of 1925.)

During the year 14 applicants for pilot's licenses were examined, and 21 aircraft were inspected as to their fitness for registration. Other work included the investigation of 3 non-fatal accidents and 28 miscellaneous cases, including complaints and violations of the laws relating to aircraft. Four airplanes were condemned as unfit to be operated. Two persons were killed and two persons injured in aircraft accidents.

The following table shows the record relating to aircraft for the years 1925 and 1926: —

	1925.	1926.
Pilots' licenses issued . . . . .	25	29
Airplanes registered . . . . .	23	21
Pilot's license fees received	\$205	\$235
Airplane registration fees received . . . . .	\$345	\$315
Pilots' licenses suspended or revoked . . . . .	2	1
Right to fly suspended or revoked . . . . .	1	0
Pilots' licenses reinstated . . . . .	1	1
Names placed on Black List . . . . .	4	0
Airplane registrations suspended or revoked . . . . .	—	2
Airplane registrations reinstated . . . . .	—	1

#### USED CAR SECTION.

##### (Motor Vehicle Identification.)

This section lists the sale of used cars and keeps records of cars reported stolen. Information furnished by this office has assisted in the recovery of many cars, both within and outside of the State, and, in cases where makers' and engine numbers had been removed, investigations have been made to ascertain correct makers' and engine numbers of manufacturers and certificates

issued to owners authorizing such numbers to be replaced and engine numbers assigned by this office to be stamped upon the engines.

The work of the Used Car Section is summarized in the following tables: —

Dealers:	1925.	1926.
First class dealers reporting to this office . . . .	1,279	1,455
Second and third class dealers reporting . . . .	624	566
Totals . . . . .	1,903	2,021
Reports received:		
Approximate number of dealers' reports of receipts and sales received in 1926 . . . . .		270,000
Approximate number of individual notices of intended sales received in 1926 . . . . .		105,000
Motor Vehicles stolen:	1925.	1926.
Number of stolen motor vehicles reported to this office from sources both within and outside of Massachusetts	19,790	22,979
Number of cars stolen in Massachusetts (including Boston) . . . . .	7,790	8,036
Number of cars recovered through information furnished by this office . . . . .	443	362
Number of cars stolen in Boston . . . . .	5,490	4,764
Number of cars stolen in Boston, recovered . . . .	4,881	4,304
Number of cars stolen in Boston, not recovered . .	609	460
Engine and serial numbers:		
Engine numbers assigned to cars . . . . .	141	121
Certificates issued authorizing replacement of engine numbers . . . . .	675	1,135
Certificates issued authorizing replacement of serial numbers . . . . .	271	1,257
Certificates issued authorizing replacement of both engine and makers' numbers . . . . .	—	53

BRANCH OFFICES.

The branch offices of the Registry of Motor Vehicles established to assist in the distribution of automobile number plates and licenses to operate motor vehicles, as well as furnishing information relative to the motor vehicle laws, were used extensively during the year as indicated by the following tabulation, which gives approximately the number of applications handled at the central office and at the several branch offices.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations.	Examina- tions for Licenses.	License Renewals.	Miscel- laneous.	Total.
Boston:					
Counter . . . . .	301,000	—	142,000	29,000	472,000
Mail . . . . .	113,000	—	329,000	10,000	452,000
Examinations . . . . .	—	97,000	—	—	97,000
Pittsfield . . . . .	24,000	3,000	9,000	2,000	38,000
Springfield . . . . .	88,000	9,000	31,000	3,000	131,000
Worcester . . . . .	66,000	8,000	27,000	4,000	105,000
Lawrence . . . . .	34,000	6,000	18,000	2,000	60,000
Lowell . . . . .	25,000	3,000	13,000	2,000	43,000
Fall River . . . . .	26,000	3,000	14,000	2,000	45,000
New Bedford . . . . .	28,000	4,000	16,000	2,000	50,000
Lynn . . . . .	54,000	8,000	24,000	4,000	90,000
Quincy . . . . .	33,000	7,000	13,000	2,000	55,000
Brockton . . . . .	32,000	4,000	16,000	2,000	54,000
Hyannis . . . . .	6,000	2,000	3,000	1,000	12,000
Totals . . . . .	830,000	154,000	655,000	65,000	1,704,000



## REGISTRATIONS, LICENSES, FEES.

The registrations of motor vehicles and licenses issued in 1926 exceeded the figures for 1925, passenger car registrations being 8% greater and commercial vehicles also being 8% greater while motor cycle registrations were less. The total number of applications handled increased about 8%, from 1,572,998 in 1925 to 1,713,974 in 1926.

## PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES.

	1905.	1910.	1915.	1920.	1925.	1926.
Passenger cars . . .	4,889	31,360	90,580	251,570	663,858	717,539
Commercial vehicles . .	—	—	12,053	52,968	100,480	108,685
Motor cycles . . .	553	3,358	9,520	15,142	10,333	9,215
Totals . . .	5,442	34,718	112,153	319,680	774,671	835,439

The fees received for the year 1926, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

## ANALYSIS OF RECEIPTS.

## Certificates of registration:

Passenger cars . . . . .	717,539	\$6,967,233 00
Commercial cars . . . . .	108,685	3,447,367 75
Additional truck fees . . . . .	356	4,324 50
Taxicabs . . . . .	839	12,585 00
Buses . . . . .	1,369	154,936 00
Trailers . . . . .	464	20,011 00
Motor cycles . . . . .	9,215	41,675 50
Manufacturers or dealers . . . . .	2,134	63,465 00
Additional cars . . . . .	7,414	46,201 00
Repairers . . . . .	376	9,250 00
Repairers' additional cars . . . . .	69	1,370 00
Motor cycle dealers . . . . .	39	390 00
Motor cycle dealers' additional cars . . . . .	25	25 00

## Licenses to operate:

Original licenses . . . . .	106,279 at \$2 00	—	212,558 00
Renewal licenses . . . . .	657,672 at 2 00	—	1,315,344 00
Examinations . . . . .	143,496 at 2 00	\$286,992	—
Re-examinations . . . . .	9,557 at 1 00	9,557	—

Total examinations . . . . .	153,053		296,549 00
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## Copies of certificates and licenses

furnished . . . . .	39,967 at 1 00	—	39,967 00
Duplicate number plates furnished	14,735 at 1 00	—	14,735 00
Lens approval applications . . . . .	23 at 50 00	—	1,150 00
Miscellaneous receipts, auto lists, process fees, etc. . . . .			3,645 11

Total . . . . .		\$12,652,781 86
Motor vehicle fees rebated (deducted) . . . . .		194,285 29

Net fees . . . . .		\$12,458,496 57
Court fines received by the Treasurer and Receiver General . . . . .		619,360 90

Total receipts credited Highway Fund account, 1926 . . . . .		\$13,077,857 47
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The cost of running the Registry of Motor Vehicles for the year 1926 was \$1,028,462.86, which was 8.2% of the net fees collected, as compared with 10% for the year 1925 and 10.5% for the year 1924. This cost, deducted from the receipts for the year, left the sum of \$12,049,394.61 available for legislative appropriation for highway work.

### ANALYSIS OF EXPENDITURES FOR 1926.

The following table gives an analysis of expenditures by the Registry for the year: —

#### Personal services:

Regular payroll . . . . .	\$575,970 81
Overtime . . . . .	12,770 66

\$588,741 47

#### Supplies:

Books, maps, etc. . . . .	\$455 26
Typewriter supplies . . . . .	1,869 91
Adding machine repairs and supplies . . . . .	63 16
Other supplies . . . . .	2,969 69
Stationery . . . . .	17,633 53
Typewriter repairs . . . . .	88 63
Other repairs . . . . .	293 46

23,373 64

#### Equipment:

Typewriter machines . . . . .	\$3,559 21
Other machines . . . . .	1,953 14
Installation of new clock system . . . . .	840 45
Dictograph system . . . . .	742 33
Office equipment . . . . .	233 55

7,328 68

#### Furniture:

Desks . . . . .	\$4,777 58
Files . . . . .	11,951 57
Chairs . . . . .	933 43
Tables . . . . .	47 04
Miscellaneous . . . . .	307 33
Electric fans . . . . .	292 92

18,309 87

#### Travel:

Employees . . . . .	\$30,540 11
Automobiles (owned by employees) . . . . .	80,761 48
Other traveling expenses . . . . .	3,460 00

114,761 59

#### Other services and expenses:

Expressage . . . . .	\$2,250 38
Postage . . . . .	56,595 78
Printing . . . . .	6,909 85
Other reports . . . . .	3,561 34
Lithographing . . . . .	3,724 83
Telephone . . . . .	4,814 62
Premium on bonds of employees . . . . .	314 80
Rent . . . . .	24,184 00
Water and ice . . . . .	1,189 40
Cleaning and janitor service . . . . .	1,311 00
Towels . . . . .	699 94
Soap . . . . .	126 13

105,682 07



Special services (labor) . . . . .	\$875 75	
Other expenses as listed below:		
Badges for inspectors . . . . .	60 00	
Clocks and regulating . . . . .	139 64	
Commissions as justices of the peace . . . . .	45 00	
Headlight devices . . . . .	436 24	
Number plates . . . . .	135,508 89	
Sundries . . . . .	214 86	
Auto exchange . . . . .	898 00	
	<hr/>	\$138,178 38
Branch Office expenses:		
Equipment:		
Lettering and signs . . . . .	\$58 65	
Office equipment . . . . .	3,678 05	
Typewriters . . . . .	396 81	
	<hr/>	4,133 51
Travel:		
Traveling expenses . . . . .	\$130 89	
Express service to bank . . . . .	330 00	
	<hr/>	460 89
Other services and expenses:		
Cleaning and janitor services . . . . .	\$2,327 16	
Expressage . . . . .	2,032 07	
Fuel . . . . .	136 00	
Lighting . . . . .	693 62	
Miscellaneous . . . . .	652 91	
Rent . . . . .	16,510 80	
Telephone . . . . .	3,763 57	
Towels . . . . .	255 55	
Water and ice . . . . .	286 69	
Special services (labor) . . . . .	830 39	
Commissions as justices of the peace . . . . .	4 00	27,492 76
	<hr/>	<hr/>
		\$1,028,462 86

The following comparative statement for the years 1925 and 1926 shows very plainly the increase of work as occasioned by the additional number of certificates of registration and licenses, etc.:—

	1925.	1926.
Passenger car certificates . . . . .	663,858	717,539
Highest number plate assigned . . . . .	547,559	600,600
Commercial car certificates . . . . .	100,480	108,685
Highest number plate assigned . . . . .	B93,001	B99,999
Number of additional truck fees . . . . .	4,723	356
Motor cycle certificates . . . . .	10,333	9,215
Highest number plate assigned . . . . .	10,410	10,000
Taxicab certificates . . . . .	—	839
Bus certificates . . . . .	—	1,369
Trailer certificates . . . . .	702	464
Manufacturers' or Dealers' certificates . . . . .	2,011	2,134
Additional cars (dealers) . . . . .	6,589	7,414
Repairers' certificates . . . . .	163	376
Additional cars (repairers') . . . . .	16	69
Motor cycle dealers' certificates . . . . .	40	39
Additional cars (motor cycle dealers) . . . . .	—	25
Licenses to operate:		
Original . . . . .	114,445	106,279
Renewal . . . . .	583,933	657,672
Total licenses . . . . .	698,378	763,951

P.D. 54		57
Examinations for licenses . . . . .	150,141	143,496
Re-examinations for licenses . . . . .	—	9,557
Total examinations . . . . .	150,141	153,053
Copies of certificates and licenses furnished . . . . .	36,713	39,967
Duplicate number plates issued . . . . .	13,288	14,735
Miscellaneous applications . . . . .	8	23
Total number of applications handled . . . . .	1,572,998	1,713,974

Total fees . . . . .	\$9,268,654 00	\$12,652,781 86
Motor vehicle fees rebated (deducted) . . . . .	108,330 12	194,285 29

Net fees . . . . .	\$9,160,323 88	\$12,458,496 57
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Court fines received by the Treasurer and Receiver-General . . . . .	575,246 90	619,360 90
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Total receipts credited Highway Fund . . . . .	\$9,735,570 78	\$13,077,857 47
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Personal services . . . . .	\$511,716 44	\$588,741 47
Expenses . . . . .	409,797 37	439,721 39

Total expenses . . . . .	\$921,513 81	\$1,028,462 86
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## DIVISION OF WATERWAYS AND PUBLIC LANDS.

### BOSTON HARBOR.

#### THE COMMONWEALTH FLATS AT SOUTH BOSTON.

##### *Commonwealth Pier No. 5.*

The work at Commonwealth Pier No. 5, during the year, has been concerned chiefly with repair and maintenance and with changes to provide additional office space for the Registry of Motor Vehicles.

On July 2, 1926, a contract was made with W. H. Ellis and Son Company for repairs to fenders and timber platforms. This work, including the driving of new fender piles on the sides, end, and outer corners of the pier, new foundation piles under the platform, rebolting pile connections, and placing yellow pine lumber for fender capping, was completed Nov. 4, 1926, at a contract cost of \$6,114.40.

A contract was made on June 16, 1926, with George T. McLauthlin Co., for furnishing and installing new electric magnet brakes and appurtenant equipment on three twelve-ton freight elevators, — one in the east shed, one in the center and one in the west shed of the pier. Miscellaneous repairs to the machinery of these elevators were also made under this contract. Work was completed Sept. 30, 1926, at a contract cost of \$2,925.

To provide additional drainage for the concourse on the second floor of the pier, a contract was made Oct. 25, 1926, with Joseph P. O'Hearn for furnishing and setting scuppers and downspouts and building catch basins and connections, for a lump sum of \$2,980. This work is now in progress.

On Sept. 30, 1926, a contract was made with Maurice M. Devine for painting certain offices in the headhouse, adjacent corridors and stairways, for the sum of \$2,970. This work is now in progress.

Passenger gangways at the pier were strengthened and repaired under an agreement with S. W. K. Brooks at a cost of \$2,034 and numerous minor repairs have been made during the year to replace and complete equipment at the pier.

The additional office on the second floor of the center shed, built for use of the Registry of Motor Vehicles under contract of Nov. 6, 1925, with George W. Nicoll Co., Inc., was completed Jan. 28, 1926, at a contract cost of \$8,400. Another room, previously used for storage, was put into condition at a cost



of \$655, and two rooms upon the first floor were transferred for office use by the Registry.

To provide more efficient operation of the heating equipment for the additional offices on the east side, an additional steam return pipe was extended to these rooms at a cost of \$325. Repairs were also made to the setting of the boilers at the heating plant, to the fire boxes, the feed water pumps and the high pressure steam main, at a total cost of \$4,209.35.

#### *Viaduct and Ramp.*

The work of cleaning and painting the metal work of the viaduct and ramp under contract of Sept. 10, 1925, with Steves Lacios Company was completed Apr. 28, 1926, at a contract cost of \$8,400.

During the year a new surfacing of bituminous waterproofing was applied to badly worn places in the viaduct roadway.

#### *Railroad Yard built by the Federal Government.*

When the land was sold for the Army Base at South Boston, permission was given the Federal Government to occupy for open storage an area bounded by the Army Base, the viaduct to Commonwealth Pier No. 5, Summer Street, and the railroad yard of the Commonwealth. Upon this area the Federal Government built a large railroad yard for use during the war.

On May 14, 1926, the Secretary of War released this area and such railroad tracks as still remained thereon to the Commonwealth, upon condition that the Commonwealth should maintain for the use of the Federal Government and for itself for a period of twenty years from July 1, 1926, two railroad tracks connecting the Army Supply Base with other tracks of the Commonwealth and of the New York, New Haven and Hartford Railroad, the right to lay and maintain which was granted in the deed conveying to the United States the area for the Army Supply Base. The area released covers about 9½ acres, and has approximately six miles of track affording a storage capacity for 400 cars. It is equipped with lights for night operation, provided with a system of drainage and with water mains and hydrants for protection from fire.

#### *Staples Coal Wharf and Metropolitan Coal Wharf.*

In August, 1926, the Division received an inquiry from the Eastern Steamship Lines, Inc., regarding use of the dock between the two wharves at South Boston belonging to the Commonwealth and known as the Staples Coal Wharf and the Metropolitan Coal Wharf. The Company wished to place two of its steamers in this dock for the winter and agreed to pay \$15 per day for the privilege.

For such use of the dock a depth of 21 feet at mean low water was needed. On Oct. 7, 1926, a contract was made with the Bay State Dredging and Contracting Company to dredge between these wharves to a depth of 21 feet at mean low water. This work was completed Oct. 31, 1926, at a contract cost of \$4,127.64.

The dredged dock is now in use by the steamers *New York* and *Boston* of the Eastern Steamship Lines, Inc., under a permit granted Nov. 2, 1927.

#### *DEVELOPMENT OF LAND SOUTH OF SUMMER STREET.*

The storehouses on D and E Streets, formerly known as the Army Stores, have been occupied during the year. Two sections A and G of Storehouse No. 1, formerly used by the Federal Government, were released to the Commonwealth in August and have been taken over by the Wiggin Terminals, Inc., in accordance with the terms of the lease of Mar. 1, 1923, so that now all seven sections of this storehouse are leased to the Wiggin Terminals, Inc. Storehouse No. 2 is used by the United States Post Office Department and by the Division of Highways of the Department of Public Works.

During the year additional sprinkler pipes have been installed at Storehouse No. 1 and miscellaneous repairs made to this building, at a cost of \$1,080.03.

On May 17, 1926, a deed of a parcel of land containing 21,688.77 square feet on the easterly side of D Street, adjoining property of the Joseph Burnett Company, was given to the U. T. Hungerford Brass and Copper Company in accordance with the terms of an agreement of May 2, 1923.

#### THE COMMONWEALTH FLATS AT EAST BOSTON.

##### *Aircraft Landing Field.*

The aircraft landing field at East Boston and an area adjacent to it are leased to the Federal Government until June 30, 1927, with the privilege of renewal. Two of the four hangars built at the field are used by the United States Army and two by the Massachusetts National Guard.

The work of grading, levelling and rolling the field and the roadway used as an approach was continued by the Federal Government during the early part of the year. After the enactment of chapter 385, Acts of 1926, an appropriation of \$10,000 by the city of Boston became available for expenditure under the supervision of the Division. Under an agreement with Edward J. McHugh and Son cinders have been placed upon the area west of the hangars and southerly of the east and west runway. This area has been subgraded and rolled and subgrading has been begun northerly of the east and west runway.

On Sept. 24, 1926, a lease was given to the Airport Development Company of 7,200 square feet of land near this field. Upon this area the Company is building a hangar for commercial use.

##### *Dredging and Filling in East Boston.*

No contract for dredging and filling has been in force at East Boston since the completion on Dec. 24, 1923, of that with the Atlantic Gulf and Pacific Company. Since that time about 1,450,000 cubic yards of material dredged from various locations in the harbor by dredging companies employed chiefly upon private work have been deposited in the receiving basin.

The Commonwealth has reclaimed at East Boston about 150 acres of land, a part of which is included in the areas leased to the Federal Government for the aircraft landing field.

#### COMMONWEALTH PIER No. 1, EAST BOSTON.

On Mar. 18, 1926, a contract was made with the Bay State Dredging and Contracting Company to build a new timber bulkhead across the inner end of the west dock at Pier No. 1, East Boston. A total length of 107 feet of bulkhead was built under this contract and six piles driven to strengthen the old bulkhead. The work was completed May 5, 1926, at a contract cost of \$5,471.

A contract was made on Apr. 6, 1926, with W. H. Ellis and Son Company to build along the property line of the Commonwealth at this pier about 880 linear feet of board fence to connect with an existing wooden fence bordering Lewis Street and a part of Marginal Street. This work was completed Nov. 17, 1926, at a contract cost of \$2,343.

#### DREDGING NEAR GRAND JUNCTION WHARVES.

On Oct. 25, 1926, a contract was made with Eugene Breymann to dredge to a depth of 30 feet at mean low water a shoal area westerly of the Anchorage Basin and between the main ship channel and the Grand Junction Wharves at East Boston. The contract prices for this work are: for dredging and disposing of the dredged material 29.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$10 per cubic yard. Work was begun in October and completed Nov. 19, 1926.

#### MYSTIC RIVER, CHARLESTOWN.

A contract was made on Sept. 17, 1926, with the Bay State Dredging and Contracting Company, to dredge to a depth of 30 feet at mean low water a shoal area in front of the wharves on the southerly side of Mystic River, extending from a point opposite the wharf of Castner, Curran and Bullitt, Inc.,



to the westerly side line of the westerly wharf of the Wiggin Terminals, Inc., a distance of about 1,400 feet. The contract prices for this work were: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. No dredging was done under this contract within 50 feet of the ends of the piers in the river. Work was completed Nov. 2, 1926, at a contract cost of \$16,078.56.

#### POINT ALLERTON SEA WALL, HULL.

Under the provisions of chapter 315, Acts of 1925, authorizing the construction of a sea wall or breakwater at Point Allerton, the Division made on Sept. 7, 1926, a taking of rights and easements in lands along the shore necessary for the construction and maintenance of this wall. The taking was recorded Sept. 9, 1926, in the Plymouth Registry of Deeds, as required by law.

On Sept. 8, 1926, a contract was made with Bradford Weston for the construction of a concrete sea wall with heavy riprap in front, as a protection for the shore at Point Allerton. The wall is to connect with the westerly end of the granite sea wall built by the Federal Government, 1870-1874, and to extend westerly about 1,500 feet to join the wall built by the Commonwealth at Stony Beach. The easterly part of the wall is to be built to an elevation of 21.6 feet above mean low water, or level with the top of the Government sea wall, while the westerly part will be built to elevation 19.4 feet above mean low water, the level of the top of the sea wall at Stony Beach.

Work was begun Sept. 18, 1926, and is now in progress. A length of 638 feet of the structure has been built and 150 cubic yards of filling have been placed back of the wall.

Amount expended during the year, \$25,473.16. Total expenditure to Dec. 1, 1926, \$25,897.31.

#### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR.

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$60,000 was made during 1926, with the following condition:

"provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations or individuals."

An appropriation of \$25,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Division during the year for surveys and improvements in the following localities: Allen's Harbor, Harwich; Cape Poge Pond, Edgartown; Cotuit Harbor, Barnstable; Falmouth Inner Harbor, Falmouth; Nobscusset Harbor, Dennis; Sesachacha Pond, Nantucket; West Falmouth Harbor, Falmouth.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Cotuit Harbor, Barnstable; Nobscusset Harbor, Dennis; Sesachacha Pond, Nantucket.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, in previous reports of this Division, and in the tables of the Appendix

accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of the work done during year 1926, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

#### ALLEN'S HARBOR, HARWICH.

Hearing was held Feb. 24, 1926, upon the petition of the Selectmen of Harwich for the building of jetties at the entrance to Allen's Harbor in the town of Harwich.

On Aug. 30, 1926, a contract was made with Starbuck and Thomas for the construction at the entrance to this harbor of two timber jetties, the one on the easterly side of the channel 300 feet long and the one on the westerly side 400 feet long. The contract price for furnishing materials and building these jetties, including pile clusters at the outer ends and all incidental work, is \$19.65 per linear foot of pile and timber jetty in place. Work was begun Oct. 23, 1926, and is now in progress, about fifty per cent remaining to be done. Toward the cost of the work a contribution of \$7,627.50 was made by the Cape Cod Real Estate Trust. Amount expended during the year, \$5,622.72. Total expenditure to Dec. 1, 1926, \$5,924.72.

#### ANNISQUAM RIVER, GLOUCESTER.

Hearing was held Feb. 24, 1926, regarding dredging needed to provide a channel through a bar in Ipswich Bay at the entrance to Annisquam River.

On May 27, 1926, a contract was made with the Bay State Dredging and Contracting Company to include the dredging of 22,000 cubic yards of material from a channel through a bar in Ipswich Bay at the northerly entrance to Annisquam River. The contract prices for the work were: for dredging the channel and disposing of the dredged material at sea, 57 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$18 per cubic yard. The work was completed July 21, 1926, when a channel 8 feet deep at mean low water, 200 feet wide on the bottom and approximately 1,000 feet long had been dredged through the bar in Ipswich Bay at a contract cost of \$11,884.50. A contribution of more than twenty-five per cent of the cost of the work was made by the city of Gloucester.

In August a request was received for the removal of shoals from the area in the river in front of the club house of the Annisquam Yacht Club. Dredging to remove the shoals was done by the Bay State Dredging and Contracting Company for the lump sum of \$500. Toward this cost a contribution of \$125 was made by individuals interested.

During the year complaint was received regarding shoaling in the river about 1,500 feet northwest of the Blynman Bridge. This shoal was removed by the Bay State Dredging and Contracting Company by dredging about 1,000 cubic yards of material at a price of 42 cents per cubic yard. Amount expended during the year \$428.26.

Amount expended during the year, \$13,297.87. Total expenditure to Dec. 1, 1926, \$141,958.21.

#### BEVERLY HARBOR.

Under authority of Chapter 12, Resolves of 1922, the Commonwealth paid \$50,000 as a contribution toward the cost of the improvement of Beverly Harbor under a project of the Federal Government including dredging and the removal of ledge. The work of dredging was completed in 1924. The removal of ledge has been in progress during the year and is now about 45 per cent completed.

#### CAPE POGE CHANNEL, EDGARTOWN.

Hearing was held Feb. 24, 1926, upon the petition of the Selectmen of Edgartown for the dredging of a channel from Cape Poge Bay to Muskeget Channel and the building of jetties in Muskeget Channel.

Subsequently the town voted to assume liability for damages for this work,



contributed \$16,500 toward the cost and made the necessary taking of land authorized by chapter 156, Acts of 1923.

On July 22, 1926, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 60 feet wide on the bottom and 6 feet deep at mean low water from Cape Poge Bay to Muskeget Channel, to build two stone jetties in Muskeget Channel, and to place stone riprap on the slopes of the dredged channel. The contract prices for this work were: for dredging channel and disposing of the dredged material, 62 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$18 per cubic yard; for furnishing and placing granite riprap and chips in the jetties, \$5.70 per ton of 2,000 pounds; for furnishing and placing granite chips as riprap on the channel slopes, \$6.00 for each ton of 2,000 pounds. The work was completed Oct. 13, 1926, at a contract cost of \$35,123.48. Under this contract 23,774 cubic yards of material were excavated, 2,240 tons of stone placed in the jetties and 1,372.6 tons placed as bank protection. Amount expended during the year, \$36,767.73. Total expenditure to Dec. 1, 1926, \$36,767.73.

#### COHASSET HARBOR.

The work of dredging in Cohasset Harbor under contract of Oct. 9, 1925, with the Bay State Dredging and Contracting Company, was completed May 1, 1926, at a contract cost of \$16,273.98. By this dredging an area of about two acres was added to the anchorage basin on the westerly side of the harbor, and about one-third of an acre to the basin on the easterly side. Work under this contract was extended to provide for the removal of shoals from the anchorage basin in front of the Cohasset Yacht Club over an area of about one-third of an acre, and to allow the dredging of a channel 30 feet wide and 750 feet long to depths varying from 4 feet to 6 feet in the southwest branch of the harbor from the six-foot contour in the main basin westerly to within fifty feet of the head of the harbor. Toward the cost of work under this contract a contribution of \$5,800 was made by the town and by individuals interested. Amount expended during the year, \$16,929.06. Total expenditure to Dec. 1, 1926, \$83,163.23.

#### COTUIT SHORE PROTECTION, BARNSTABLE.

During the year the attention of the Division was called to the erosion of a portion of the beach in front of the timber bulkhead built by the Commonwealth in 1925 at Cotuit. An inspection showed the need for protecting a short section of the bulkhead to ensure its stability. An agreement was subsequently made with Jesse Murray to place in front of the bulkhead at a price of \$4.75 per ton of 2,000 pounds, riprap to be furnished by the Division, delivered at West Barnstable railroad station. Under this agreement 44.95 tons of riprap were placed at a contract cost of \$213.51. Toward the cost of this work a contribution of \$183.38 was made by interested individuals. Amount expended during the year, \$363.28. Total expenditure for improvement at Cotuit to Dec. 1, 1926, \$68,779.97.

#### ELLISVILLE HARBOR, PLYMOUTH.

The jetty built of crib work ballasted with stone at Ellisville Harbor was damaged by the winter storms to such an extent that it seemed advisable to rebuild the outer end of the structure. This work was done at a cost of \$992.30. Amount expended during the year, \$791.80. Total expenditure to Dec. 1, 1926, \$18,520.28.

#### FALMOUTH INNER HARBOR, FALMOUTH.

During the year the Division was requested to remove certain shoaling in the entrance channel to Falmouth Inner Harbor, and to repair damage to the west jetty. On June 16, 1926, a contract was made with William E. Burke to dredge about 6,500 cubic yards of material in the entrance channel to make this channel 100 feet wide on the bottom and 10 feet deep at mean low water. The

contract prices for this work were: for dredging the area and disposing of the dredged material, 45 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$15 per cubic yard; for dredging about 200 cubic yards from an area lying west of the west jetty and disposing of the material adjacent to the work, the lump sum of \$150. The dredging was completed Sept. 1, 1926, at a contract cost of \$2,987.25. By this work a channel 100 feet wide, 800 feet long and 10 feet deep at mean low water has been provided through the shoal beginning between the jetties and extending to the town landings at Clinton Avenue.

Under an agreement with William E. Burke, 50 tons of stone chips and 50 tons of heavy stone riprap were placed in the westerly jetty at a price of \$6.95 per ton of stone in place in the completed work. The contract cost of this work was \$718.28

In November an agreement was made with John A. Davis under which certain holes back of the west jetty were filled at a total cost of \$100.38.

Amount expended during the year, \$4,095.01. Total expenditure to Dec. 1, 1926, \$112,802.04.

#### IPSWICH RIVER, IPSWICH.

During the year complaints came to the Division regarding certain boulders in the channel of Ipswich River near the town landing. An agreement for the removal of these boulders has been made with Manzer & Damon and a part of the work has already been done at a cost of \$260. Amount expended during the year, \$287.38. Total expenditure to Dec. 1, 1926, \$58,989.55.

#### MENAMSHA SEA WALL, CHILMARK.

Work under contract of Nov. 19, 1925, with William E. Burke for placing riprap in front of the sea wall built by the Commonwealth was begun Jan. 18, 1926. Before the contract was completed the failure of a section of the sea wall necessitated an extension of the work and the placing of filling on the beach back of the riprap. The work was completed Apr. 3, 1926, at a contract cost of \$10,912.52. About 1,000 tons of stone riprap and chips were placed to protect 250 linear feet of filling to close the gap in the sea wall, and 436 tons of riprap placed in protecting 250 feet of concrete sea wall. Later a small amount of riprap that had been removed from the easterly slope of the inner channel was replaced. Amount expended during the year, \$12,304.81. Total expenditure for improvement at Menamsha to Dec. 1, 1926, \$94,003.89.

#### NEW BEDFORD STATE PIER.

Since the termination on Dec. 31, 1923, of the lease of Mar. 1, 1921, to the New Bedford Storage Warehouse Company, this pier has been operated by the Division. A revised schedule of rates adopted by the Division for use at this pier was approved by the Governor and Council and became effective July 15, 1925.

During the year minor repairs have been made to the foundation of one of the wooden pier sheds.

Two transportation companies occupy space at the northerly end of the immigration shed and in the south wing of the timber freight shed, respectively. All the remaining space is available for cargo.

This pier, built under authority of chapter 693, Acts of 1914, was completed in 1917, providing accommodations for vessels 600 feet long, and less, with a draft of 25 feet, or less, and has been equipped for serving large ocean-going craft.

A steel and concrete two-story building 300 feet long and 105 feet wide, equipped with a freight elevator, has been built upon the pier. In extension of this building two one-story wooden sheds have been constructed, in addition to a wooden shed for use in admitting immigrants.

A channel dredged by the Federal Government provides a depth of twenty-five feet at mean low water from deep water in Buzzards Bay to the pier.



Amount expended during the year for operation, \$7,677.37. Total expenditure to Dec. 1, 1926, for construction, \$494,133.33, and for operation, \$38,467.55.

#### OAK BLUFFS SEA WALLS.

Work under contract of June 11, 1925, with Guiney and Hanson Construction Company for building a concrete sea wall and 14 timber jetties to protect the shore in the vicinity of the steamboat landing at Oak Bluffs, was completed Feb. 17, 1926, at a contract cost of \$44,755.46. A concrete sea wall 1,764.64 feet long has been built in two sections, one section south of the steamboat wharf, 971.4 feet long, extending from a connection with an old concrete wall to the steamboat wharf; the other section, 790.24 feet long, extending from the steamboat wharf northerly to a connection with a wall built by the Commonwealth in 1911. Timber spur jetties each 52 feet long have been constructed, seven in front of the northerly section of the wall and seven in front of the southerly section. In addition, 881 cubic yards of filling were placed back of the wall.

After the completion of the work the town asked that filling be placed back of the wall to the height of the top. Under an agreement with Amos Silvia 776.7 cubic yards of filling were placed back of this wall at a cost of \$1,313.98.

Amount expended upon this wall during the year, \$24,805.34. Total expenditure on this wall to Dec. 1, 1926, \$49,299.17.

Work under contract of Oct. 1, 1925, with William E. Burke for placing stone riprap to protect the beach at the southerly end of the sea wall built by the Commonwealth at Sea View Avenue, was completed Sept. 7, 1926, at a contract cost of \$5,578.59. Riprap amounting to 802 tons was placed for the protection of 250 linear feet of shore. One-half the cost of this work was paid by the Division of Highways as the protection of the State Highway was involved. Amount expended during the year by this Division, \$2,801.35. Total expenditure to Dec. 1, 1926, by the Division of Waterways and Public Lands, \$90,280.74.

#### COMMONWEALTH PROPERTY AT PLYMOUTH.

During 1926 an appropriation of \$9,000 was made for the maintenance and repair of the property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Division of Waterways and Public Lands by vote of the Governor and Council on July 17, 1924.

The work of placing gravel and stone riprap in front of the bulkhead at the pier upon this property has been continued during the year. On May 19, 1926, a contract was made with William L. Miller for repairing a portion of the State Pier by raising the deck, furnishing and placing new girder caps and blocking over the same, and furnishing and driving 8 piles and about 110 linear feet of timber bulkhead. The contract price for this work was the lump sum of \$3,176. The work was completed July 27, 1926, at the contract price.

Under an agreement with the Division of Highways a section of road from the highway to this pier was rebuilt and resurfaced.

Arrangements have been made for the care and maintenance of the grounds during the year.

Amount expended during the year, \$8,024.04. Total expenditure to Dec. 1, 1926, \$13,594.62.

#### PROVINCETOWN SHORE PROTECTION.

On Oct. 1 1926, the Division of Waterways and the Division of Highways, acting jointly, made a contract with J. W. Nickerson to place about 450 tons of riprap consisting of stones weighing from one-half ton to two tons each, and about 150 tons of stone chips along the shore in front of the State Highway in Provincetown. The contract prices for this work are: for furnishing and placing heavy stone riprap, \$6.24 for each ton of 2,000 pounds in the completed work; for furnishing and placing stone chips in back of and under the heavy riprap, \$6.24 for each ton of 2,000 pounds in the completed work. The

work is now in progress. Amount expended during the year, by the Division of Waterways, \$1,828.71. Total expenditure to Dec. 1, 1926, \$28,039.08.

#### PROVINCETOWN TERCENTENARY COMMISSION.

Under the provisions of chapter 366 of the General Acts of 1919, the Provincetown Tercentenary Commission acquired certain land in Provincetown, Truro and Eastham. When the final report of the Commission was accepted by the Governor and Council on June 23, 1926, the areas so acquired came under the jurisdiction of the Division of Waterways and Public Lands in accordance with the provisions of section 2, chapter 91, General Laws, and have been in the care of the Division since that date.

#### ROCKPORT HARBOR.

Hearing was held on Feb. 24, 1926, upon the petition of J. Manuel Marshall and others, for the removal of boulders from the entrance channel to Rockport Harbor.

On May 27, 1926, a contract was made with the Bay State Dredging and Contracting Company to include the removal of boulders from the entrance channel to this harbor at a contract price of \$105 for each cubic yard removed and disposed of at sea. This work was completed July 13, 1926, at a contract cost of \$1,570.80. Under this contract twenty-eight boulders were removed from the entrance channel to provide a depth of 12 feet at mean low water through a channel 100 feet wide between the two jetties at the harbor entrance. Amount expended during the year, \$1,638.39. Total expenditure to Dec. 1, 1926, \$15,555.58.

#### SCITUATE.

Complaints were received during the year regarding erosion at the sea wall built by the Commonwealth at Cedar Point, Scituate. Under an agreement with Frank H. Barry this wall was repaired by cutting out parts badly eroded and pointing up the wall with cement mortar. A section of the top of the wall was also cut away and replaced. The work was completed Oct. 23, 1926, at a cost of \$313.80. Amount expended during the year, \$313.80. Total expenditure to Dec. 1, 1926, \$37,305.40.

At the hearing held Feb. 24, 1926, upon petitions for river and harbor improvement, the attention of the Division was again called to the settlement at the inner end of the south jetty at the entrance to the harbor. Under an agreement with Frank H. Barry stone was placed to repair the jetty and riprap deposited easterly of the jetty. The work was completed Nov. 9, 1926, at a cost of \$913.67. Toward the cost of the work a contribution of \$500 was made by John L. Rothery, owner of the land at the inshore end of the jetty. Amount expended during the year, \$913.67. Total expenditure to Dec. 1, 1926, \$13,053.52.

An examination of the sea wall built by the Commonwealth at the Glades found the beach so badly eroded as to make desirable further protection of the wall. Under an agreement with Frank H. Barry 105 tons of stone riprap were placed in front of the sea wall. The work was completed Nov. 27, 1926, at a cost of \$631.25. Amount expended during the year, \$694.09. Total expenditure to Dec. 1, 1926, \$27,619.58.

#### SMITH'S COVE, GLOUCESTER.

Hearing was held Feb. 24, 1926, upon the petition of John A. Stoddard for dredging in Smith's Cove, Gloucester.

On May 27, 1926, a contract was made with the Bay State Dredging and Contracting Company to include the dredging of three areas in Smith's Cove to varying depths of 14 feet, 10 feet and 6 feet at mean low water. The contract prices for this work were: for dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$18 per cubic yard. The work was completed August 6, 1926, at a contract cost of \$7,814.76. Under the contract an area of slightly more than two acres



off the wharf of the Booth Fisheries Company was dredged to a depth of 14 feet at mean low water; an area of approximately one-half acre off the wharves of the marine railway on Rocky Neck to a depth of 10 feet at mean low water, and near the head of the Cove, a channel 6 feet deep at mean low water, 60 feet wide and 400 feet long was dredged to give access to the landing float. The city of Gloucester contributed more than twenty-five per cent of the cost of the work. Amount expended during the year, \$8,160.86. Total expenditure to Dec. 1, 1926, \$13,466.16.

#### WAQUOIT BAY, FALMOUTH AND MASHPEE.

The work under contract of Oct. 1, 1925, with William E. Burke for placing about 200 tons of heavy stone riprap for the construction of a beacon at the outer end of the breakwater on the easterly side of the entrance to Waquoit Bay, was completed Oct. 22, 1926, at a contract cost of \$1,446.30. Amount expended during the year, \$1,313.61. Total expenditure to Dec. 1, 1926, \$55,453.46.

#### WEST FALMOUTH HARBOR, FALMOUTH.

Hearing was held Feb. 24, 1926, upon the petition of Charles B. Wormelle and others, for the building of a timber breakwater at the entrance to West Falmouth Harbor.

On June 24, 1926, a contract was made with William L. Miller for constructing 402 linear feet of timber breakwater at the entrance to the harbor. The contract price for furnishing all materials and building the pile and timber breakwater, including pile clusters at ends, projecting sheeting on one side and all incidental work, was \$37 per linear foot of main breakwater complete in place. The work was completed Oct. 5, 1926, at a contract cost of \$14,874. Toward the cost of this work a contribution of \$8,000 was made by the town of Falmouth and interested individuals.

Amount expended during the year, \$17,284.50. Total expenditure to Dec. 1, 1926, \$53,586.58.

### MISCELLANEOUS.

#### ANGLE TREE MONUMENT RESERVATION.

Chapter 289, Acts of 1925, authorized the establishment of the Angle Tree Monument Reservation. In accordance with the provisions of the act the Department made a survey and plan of the land involved and held conferences with interested individuals regarding the acquisition of the necessary area. No land has yet been taken for this purpose.

#### GREAT PONDS.

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Division has considered matters relating to: Baddacook Pond, Groton; Boot Pond, Plymouth; Cedar Pond, Carver; Crystal Lake, Newton; Eel Pond, Edgartown; Fort Pond, Lancaster; Furnace Pond, Pembroke; Great South Pond, Plymouth; Grass Pond, Harwich; Kendall Pond, Gardner; Lake Chaubunagungamaug, Webster; Lake Massapoag, Sharon; Lake Quinsigamond, Shrewsbury; Lake Winthrop, Holliston; Little Pond, Sherborn; Little South Pond, Plymouth; Martin's Pond, North Reading; Mascuppie or Tyng's Pond, Dracut; Oldham Pond, Pembroke; Oyster Pond, Falmouth; Pleasant Pond, Hamilton and Wenham; Salt Pond, Falmouth; Seymour's Pond, Brewster and Harwich; Silver Lake, Athol; South Pond, Savoy; Spy Pond, Arlington; Walker's or Buck's Pond, Harwich.

A list of the lakes and ponds of the State with areas of ten or more acres, given by counties, is printed in the report of the Commission on Waterways and Public Lands on "Water Resources of Massachusetts, 1918."

A survey was made during the year of Sesachacha Pond, Nantucket. The area surveyed was 278.7 acres (natural area 278.7 acres); the maximum depth was 17.1 feet.

Amount expended during the year, \$80.59. Total expenditure to Dec. 1, 1926, \$10,755.11.

#### ACCESS TO GREAT PONDS.

Two petitions relative to public access to great ponds were filed during the year in accordance with the provisions of chapter 453, Acts of 1923.

On Mar. 18 and Mar. 25, 1926, the joint board gave public hearings upon the petition of ten citizens of the Commonwealth representing that public necessity requires a right of way for public access to South Pond, Savoy. Upon consideration of all the evidence the board has concluded that no right of way for public access to this pond exists and that public convenience and necessity do not require that such right of way be established. A special report embodying this conclusion is to be made to the Legislature.

A special report is to be made to the Legislature in December upon the petition filed last year regarding a right of way for public access to Island Creek Pond, Duxbury.

A special report has been made to the Legislature relative to acquiring a right of way for public access to Little Pond, Sherborn. This report concludes:

"Upon the consideration of all the evidence, the board finds that it appears that no right of way for public access to this pond exists, and that public convenience and necessity do not require that such right of way be established."

A petition regarding a right of way for public access to Walker's Pond, locally known as Buck's Pond, in the town of Harwich, has been received and is to be given public hearing upon Dec. 2, 1926. No further action has been taken.

Expenditures under the provisions of chapter 453, Acts of 1923, are included in the amounts given under Great Ponds.

#### PROVINCE LANDS.

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Thirty acres of sand dunes have been covered with brush and 15 acres of bayberry transplanted. In addition 18,000 native pines on the sod have been transplanted and 120,000 seedlings planted.

The sum of \$223.59 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands. Amount expended during the year, \$4,998.77. Total expenditure to Dec. 1, 1926, \$111,211.33.

#### STATE BOUNDARIES.

During the perambulation of the State boundaries made in 1925 under the provisions of section 4, chapter 1, General Laws, repairs to certain monu-



ments were found necessary and some cutting of brush and trees along a part of the Massachusetts-New York line.

In 1926 three monuments were added to those upon the Massachusetts-Vermont line. Repairs have been made to one bound on the Massachusetts-Rhode Island line, to one on the Massachusetts-Connecticut line, and to two bounds on the Massachusetts-New York line.

Under an agreement with the State of New York to pay one-half the cost of the work, trees and brush were cut and cleared from locations badly overgrown upon seven miles of the Massachusetts-New York line.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS.

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, whereby results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Division, said data being available for other Departments of the Commonwealth.

Toward the cost of this work the Department has paid during the year, \$4,000.01.

#### TOPOGRAPHICAL MAP OF MASSACHUSETTS, TOWN BOUNDARY ATLASES OF THE BOUNDARY LINES OF CITIES AND TOWNS, AND OTHER MAPS.

Under authority of section 33, chapter 91, General Laws, as amended by section 2, chapter 57, Acts of 1923, and under previous laws, 4,666 sections of the topographical map of Massachusetts, 20 maps of Massachusetts, dated 1917, 39 maps of Boston Inner Harbor, edition of 1923, 4 maps of the Province Lands at Provincetown and 8 atlases of the boundary lines of cities and towns have been sold during the year ending Nov. 30, 1926, for which \$740 was received and paid into the treasury of the Commonwealth.

No town boundary atlases were distributed during the year under authority of chapter 360, Acts of 1900, as amended by chapter 484, Acts of 1909.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS.

By section 33, chapter 91, General Laws, the Division is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following new triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 5 stations in Mashpee; 4 stations in Barnstable; and one station in Edgartown.

In addition the following triangulation stations were determined and town boundary stations located: 22 triangulation stations in Brookfield and East Brookfield; 6 town bounds on the Brookfield-East Brookfield boundary line; one town bound on the Halifax-Pembroke boundary line; one town bound set at the corner of Adams, Florida and Savoy.

Amount expended during the year, \$560.71.

#### LICENSES AND PERMITS.

During the year 124 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 108 permits for miscellaneous purposes. The Division also approved 87 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

RECOMMENDATIONS FOR LEGISLATION.

DIVISION OF WATERWAYS AND PUBLIC LANDS.

*Term of Licenses for Structures in the Tide Waters of Boston Harbor.*

Under section 15 of chapter 91 of the General Laws the term for which work proposed in Boston Harbor shall be valid is not definitely fixed; therefore it is recommended that licenses issued for work in Boston Harbor be given the same term which they carried previous to 1921.

SPECIAL REPORTS TO THE LEGISLATURE.

Opportunities for access by the public to beaches and other points on the seashore. — Report made Dec. 15, 1925, by a special Commission consisting of the Commissioner of Public Works, the Commissioner of Public Safety and the Commissioner of Conservation, under chapter 26, Resolves of 1925. (Senate 25 of 1926.)

Establishment of a Free Port within the Port of Boston. — Report made Dec. 15, 1925, by the Department of Public Works, under chapter 24, Resolves of 1925. (Senate 30 of 1926.)

Publication and distribution of lists of names of owners and operators of motor vehicles. — Report made Dec. 15, 1925, by the Division of Highways, under chapter 34, Resolves of 1925. (House 308 of 1926.)

APPENDIX.

RECEIPTS DURING FISCAL YEAR 1926.

*Port of Boston Fund.*

Rent under leases and permits . . . . .	\$111,209 45	
Use of Commonwealth Pier 5 . . . . .	184,050 33	
Use of Commonwealth Pier 1 . . . . .	1,086 38	
Use of Hayward's Creek Property . . . . .	504 50	
Use of other property . . . . .	60 00	
Inspection of dumping, Boston Harbor . . . . .	3,583 23	
Dumping at Receiving Basins, Boston Harbor . . . . .	10,895 61	
License charges, Boston Harbor (tide water assessments) . . . . .	3,329 77	
Sale of Boston Harbor Maps . . . . .	19 50	
Pay Station receipts . . . . .	96 06	
Sale of land, South Boston . . . . .	42,313 12	
Sale of gravel dredged . . . . .	8,799 50	
		\$365,947 45

*General Revenue.*

Inspection of dumping, outside Boston Harbor . . . . .	\$2,894 67	
License charges, outside Boston Harbor		
Commonwealth's tide land . . . . .	2,782 55	
Tide water assessments . . . . .	11 50	
Use of islands in Great Ponds, etc. . . . .	575 00	
Sale of Massachusetts atlas sheets and miscellaneous maps . . . . .	835 75	
Sale of contract specifications and plans . . . . .	95 00	
Certified copying charges . . . . .	151 00	
Reimbursement a/c Salem Survey . . . . .	66 78	
Use of Province Lands . . . . .	223 59	
Use of New Bedford State Pier . . . . .	3,064 63	
Interest on Bank Accounts . . . . .	173 20	
		10,873 67
		\$376,821 12



## EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1926, INCLUSIVE.

PAYMENTS.	Boston Harbor.	Common-wealth Flats at East Boston.	Common-wealth Flats at South Boston.	Castle Island Filling.	Common-wealth Pier No. 5.	Common-wealth Pier No. 6.	Dry Dock.	Haywards Creek.	Mystic River.
To Nov. 30, 1925 . . .	\$1,700,475 92 <sup>1</sup>	\$3,060,196 53	\$4,849,434 32	\$725,933 78	\$4,003,550 90	\$1,092,149 06	\$3,169,651 15 <sup>3</sup>	\$385,959 61 <sup>4</sup>	\$411,801 81 <sup>2</sup>
1926.									
Boston Harbor									
Channels	13,710 81	-	-	1,392 82	-	-	-	-	14,249 82
Dredging and Filling	-	-	-	-	-	-	-	-	-
Streets, Piers and Railroad Tracks	-	-	12,331 87	-	-	-	-	-	-
Aircraft Landing Field	-	3,654 86	-	-	-	-	-	-	-
Operation and maintenance of property . . .	-	-	-	-	-	-	-	-	-
Totals . . .	\$1,714,186 73	\$3,063,851 39 <sup>5</sup>	\$4,861,766 19	\$727,326 60	\$4,003,550 90	\$1,092,149 06	\$3,169,651 15	\$385,959 61	\$426,051 63

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.<sup>2</sup> Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.<sup>3</sup> \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.<sup>4</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation, \$38,600.<sup>5</sup> Appropriated by City of Boston, \$10,000.

## EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1926, INCLUSIVE — Concluded.

PAYMENTS.	Malden River.	Chelsea Creek.	Commercial Point, Dorchester Bay.	Commonwealth Pier No. 1, East Boston.	Commonwealth Pier No. 5, Supervision and Operation.	Commonwealth Pier No. 1, Maintenance.	Maintenance of Property of Commonwealth.
To Nov. 30, 1925 . . .	\$32,268 70 <sup>1</sup>	\$60,519 88	\$53,213 10	\$1,191,274 26	\$867,743 96	\$64,055 12	\$492,113 83
1926.							
Boston Harbor							
Minor Channels	-	-	-	-	-	-	-
Dredging and Filling	-	-	-	-	-	-	-
Streets, Piers and Railroad Tracks	-	-	-	8,065 42	-	-	-
Aircraft Landing Field	-	-	-	-	-	-	-
Operation and maintenance of property . . .	-	-	-	-	105,006 86	7,822 39	54,566 60
Totals . . .	\$32,268 70	\$60,519 88	\$53,213 10	\$1,199,339 68	\$972,750 82	\$71,877 51	\$546,680 43

Grand total, \$22,381,143.38

<sup>1</sup> Expended by United States Government, \$31,000; contribution by Standard Oil Company of New York, \$600.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS, FROM 1893 TO 1926, INCLUSIVE.

Locality and Character of Work.	Contributions by	
	Municipality or Others.	Total Expenditure.
Cottage Park Channel, Winthrop, Dredging . . . . .	\$1,000 00	\$22,012 08
Dorchester, easterly shore, Dredging and survey . . . . .	1,000 00	84,990 17
Harbor View, Boston, Dredging . . . . .	—	146 00
Hingham Harbor, Dredging . . . . .	6,500 00	41,595 12
Hough's Neck Channel, Quincy, Dredging . . . . .	3,500 00	29,317 16
Island End River, Everett, Survey . . . . .	—	264 10
Jeffries Point Channel, Dredging . . . . .	—	2,961 90
Mystic River (near Lawrence & Wiggin's Wharf), Dredging . . . . .	—	5,927 70
Neponset River, Dredging . . . . .	10,000 00	101,531 09
Old Harbor Cove, Dredging . . . . .	—	9,821 69
Orient Heights Channels, Dredging . . . . .	—	45,323 67
Pemberton Point, Hull, Breakwater . . . . .	60,000 00	90,316 48
Pleasant Park Yacht Club Channel, Dredging . . . . .	—	3,154 92
Point Allerton, Hull, Sea wall . . . . .	50,000 00	25,897 31
Point Shirley, Dredging . . . . .	—	3,713 37
Quincy Bay, Dredging . . . . .	3,000 00	54,416 37
Shirley Gut, Boston and Winthrop, Dredging . . . . .	—	2,110 96
South Boston, Southerly Shore, Dredging . . . . .	—	129,542 08
Stony Beach, Hull, Sea wall . . . . .	—	12,000 60
Town River, Quincy, Survey . . . . .	—	865 84
Weir River, Hull, Dredging . . . . .	25,000 00	130,963 51
Wessagussett Channel, Dredging . . . . .	—	815 20
Weymouth Fore River, Dredging . . . . .	—	32,759 20
Winthrop Harbor Channels, Dredging . . . . .	1,700 00	39,783 58
	<u>\$161,700 00</u>	<u>\$870,230 10</u>

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM DEC. 1, 1925, TO NOV. 30, 1926, UNDER CHAPTER 91 OF THE GENERAL LAWS.

Location and Character of Work.	Contributions. Expenditures.	
Allen's Harbor, Harwich, Timber jetties . . . . .	\$7,627 50	\$5,622 72
Annisquam River, Gloucester, Dredging . . . . .	3,250 00	12,869 61
Cape Poge, Edgartown, Cut through beach . . . . .	16,500 00	36,767 73
Cohasset Harbor, Cohasset, Dredging . . . . .	800 00	16,929 06
Great Ponds, Survey . . . . .	—	33 42
Herring River, Harwich, Survey . . . . .	—	37 00
Ipswich River, Ipswich, Removing boulders . . . . .	—	287 38
Improvement of Rivers and Harbors, General expenses . . . . .	—	1,889 79
Lynn Harbor, Lynn, Survey . . . . .	—	5 25
Nantucket, Survey of Sesachacha Pond . . . . .	—	110 66
Oak Bluffs, Sea wall, jetties, riprap and removal of boulders . . . . .	—	27,606 69
Ocean Grove, Swansea, Survey . . . . .	—	143 23
Rockport Harbor, Rockport, Dredging . . . . .	—	1,638 39
Salem Harbor, Salem, Survey . . . . .	—	19 35
Scituate Harbor, Scituate, Dredging . . . . .	—	3,016 96
Smith's Cove, Gloucester, Dredging . . . . .	3,875 00	8,160 86
Third Cliff, Scituate, Shore protection . . . . .	—	676 95
West Falmouth Harbor, Breakwater and Dredging . . . . .	8,000 00	17,284 50
	<u>\$40,052 50</u>	<u>\$133,099 55</u>



EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1926, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Acushnet River, Inspection and dredging . . . . .	—	\$119,613 49
Allen's Harbor, Harwich, Surveys and jetties . . . . .	\$7,627 50	5,924 72
Allen's Pond, Dartmouth, Survey . . . . .	—	195 95
Annisquam River, Gloucester, Dredging, removing ledges and riprap . . . . .	6,250 00	141,958 21
Apponagansett Harbor and River, Dartmouth, Survey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Barnstable, Survey and dredging . . . . .	1,500 00	18,554 64
Bass River, Beverly, Dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, Jetties, dredging and survey . . . . .	2,500 00	115,390 70
Beach Street, Scituate, Wall and jetties. See Scituate.		
Beverly Harbor, Dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, Sea wall . . . . .	3,701 15	18,178 75
Buck's Creek, Chatham, Jetties, survey and dredging . . . . .	2,500 00	39,719 69
Buzzards Bay, Falmouth, Survey . . . . .	—	166 11
Cape Poge, Edgartown, Cut through beach . . . . .	16,500 00	36,767 73
Cataumet Harbor. See Megansett Harbor.		
Cedar Point, Scituate, Wall and breakwater. See Scituate.		
Centerville River, Barnstable, Dredging . . . . .	1,500 00	7,603 22
Cohasset Harbor, Cohasset, Breakwater and dredging . . . . .	26,491 88	83,163 23
Concord River, Billerica, Removing boulders . . . . .	150 00	1,664 59
Connecticut River, Investigation of navigation and surveys . . . . .	—	7,074 62
Connecticut River, Agawam, Protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, Survey, wall and riprap . . . . .	640 00	25,789 02
Connecticut River, Hadley, Protective work and diversion wall . . . . .	5,000 00	112,552 48 <sup>2</sup>
Connecticut River, Hatfield, Dikes and riprap . . . . .	1,000 00	14,952 57
Connecticut River, Holyoke, Marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Holyoke, Dredging and protective work . . . . .	1,991 29	9,253 27
Connecticut River, Northampton, Protective work . . . . .	—	1,524 20
Connecticut River, Northfield, Riprap . . . . .	—	3,662 28
Connecticut River, South Hadley, Wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, Protective work . . . . .	—	12,510 08 <sup>3</sup>
Conservation of Waters, Investigation . . . . .	—	55,764 63
Cotuit Harbor, Barnstable, Dredging and survey . . . . .	8,183 38	68,779 97
Cuttyhunk Harbor, Gosnold, Jetties and dredging . . . . .	9,000 00	70,754 18
Deacon's Pond Harbor, Falmouth. See Falmouth Inner Harbor.		

<sup>1</sup> \$50,000 expended by U. S. Government.

<sup>2</sup> From 1888, inclusive.

<sup>3</sup> From 1891, inclusive.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by	
	Municipality or Others.	Total Expenditure.
Duxbury Bay and Harbor, Dredging . . . . .	\$2,000 00	\$42,602 29
East Bay, Osterville, Jetties, dredging and removing scows . . . . .	10,000 00	70,924 23
Edgartown Harbor, Survey and cut in beach . . . . .	300 00	3,444 18
Ellisville Harbor, Plymouth, Dredging . . . . .	—	18,520 28
Essex County Beaches, Survey . . . . .	—	1,000 00
Essex River, Dredging . . . . .	—	76,304 33 <sup>1</sup>
Fall River Harbor, Improvement . . . . .	—	1,130 18
Falmouth Heights, Falmouth, Sea wall . . . . .	14,222 54	53,858 08
Falmouth Inner Harbor, Dredging, jetties and wall	14,000 00	112,802 04
First and Second Cliffs, Scituate, Wall and riprap. See Scituate.		
Fresh Water Cove, Gloucester, Dredging . . . . .	3,300 00	17,477 53
Glades, North Scituate, Filling and riprap. See Scituate.		
Gloucester, Western Avenue, Sea wall . . . . .	35,000 00	60,000 00
Gloucester Harbor, Gloucester, Dredging and removing ledges . . . . .	7,500 00	118,994 65
Great Ponds, Survey . . . . .	—	10,755 11
Green Harbor, Marshfield, Jetties, dredging and survey . . . . .	—	76,466 85
Gun Rock Point, Hull, Breakwater . . . . .	10,000 00	65,668 52
Harbor Cove, Gloucester, Survey and dredging . . . . .	866 00	19,394 73
Herring Creek, Scituate, Survey . . . . .	—	253 76
Herring River, Harwich, Jetties and dredging . . . . .	2,500 00	57,029 16
Herring River, Wellfleet, Dikes and ditches . . . . .	10,000 00	32,917 86
Housatonic River, Sheffield, Survey . . . . .	—	2,011 29
Hull, Sea walls and survey . . . . .	8,882 06	37,906 21
Humarock Beach, Scituate, Survey, wall and jetties. See Scituate.		
Hyannisport, Barnstable, Survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, General expenses . . . . .	—	26,062 86
Ipswich River, Ipswich, Jetty, wall, riprap and dredging . . . . .	3,800 00	58,989 55
King's Beach, Swampscott, Removal of obstruction	—	166 41
Lake Anthony, Oak Bluffs, Jetties and dredging . . . . .	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, Investigation . . . . .	—	345 32
Lewis Bay, Barnstable, Survey and dredging . . . . .	—	28,963 21
Little Harbor, Marblehead, Dredging . . . . .	2,500 00	11,166 16
Little River, Gloucester, Survey . . . . .	—	862 93
Lobster Cove, Gloucester, Dredging . . . . .	1,500 00	50,239 86
Lynn Harbor, Anchorage Basin, Survey and dredging . . . . .	5,200 00	121,609 22
Lynn Harbor and Saugus River, Dredging and filling . . . . .	37,500 00	163,431 53
Manchester Harbor, Survey, jetties and dredging	57,000 00	135,926 28
Mattapoisett Harbor, Survey . . . . .	—	255 48
Megansett Harbor, Dredging . . . . .	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, Jetties, dredging and sea wall . . . . .	700 00	94,003 89
Merrimack River, Investigation and survey . . . . .	—	1,208 50
Mill River, Gloucester, Survey and dredging . . . . .	300 00	24,899 59

<sup>1</sup> \$5,000 expended by U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by	
	Municipality	Total
	or Others.	Expenditure.
Mitchell's River, Chatham, Survey and dredging	\$6,000 00	\$23,113 92
Nahant, Survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, Dredging .	5,500 00	28,529 62
Nantucket, Survey of Sesachacha Pond . . . .	—	110 66
Nantucket Harbor, Dredging . . . . .	5,000 00	58,982 52
Nauset Harbor and Town Cove, Dredging . .	2,000 00	10,671 24
New Bedford Harbor, Dredging . . . . .	—	18,856 57
New Bedford State Pier, Pier shed and dredging	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, Operation and maintenance . . . . .	—	38,467 55
Newburyport Harbor, Survey . . . . .	—	115 97
Nobscusset Harbor, Dennis, Breakwater, dredging and riprap . . . . .	1,200 00	39,778 84
North River, Marshfield, Surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, Survey . . . . .	—	704 52
North Scituate, Spur jetties. See Scituate.		
Oak Bluffs, Removing rocks . . . . .	—	594 95
Oak Bluffs, Sea wall . . . . .	27,500 00	90,280 74
Ocean Grove, Swansea, Survey . . . . .	—	143 23
Onset Bay, Wareham, Survey and dredging . .	1,000 00	15,295 89
Orleans, Survey . . . . .	—	104 18
Palmer's Pond, Falmouth, Survey . . . . .	—	358 76
Pamet River, Truro, Survey, dredging and repairing jetties . . . . .	1,200 00	198,010 32
Paskamansett River, Dartmouth, Dredging and jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, Pile wharf and survey .	—	5,192 95
Pines River, Revere and Saugus, Survey . .	—	904 80
Pleasant Bay, Chatham, Dredging . . . . .	600 00	2,364 33
Plum Island River, Newbury and Newburyport, Survey . . . . .	—	983 31
Plymouth Harbor, Dredging and removing old piling . . . . .	71,794 55	282,632 13 <sup>2</sup>
Plymouth Memorial Park, Maintenance . . .	—	13,594 62
Popponnesett Bay, Barnstable and Mashpee, Dredging . . . . .	—	46,252 33
Powow River, Amesbury, Dredging channel and riprapping wall . . . . .	—	502 94
Province Lands, Provincetown, Reclamation .	—	111,211 33
Provincetown Harbor, Shore protection . .	—	28,039 08
Quansett Harbor, Orleans, Survey and dredging .	500 00	2,194 50
Red Brook Harbor, Bourne, Removing pier . .	—	275 00
Revere, Stone breakwater . . . . .	—	60,397 93
Rock Harbor, Orleans, Dredging . . . . .	400 00	12,492 71
Rockport Harbor, Dredging and removing rocks .	—	15,555 58
Salem Harbor, Survey . . . . .	—	1,509 92
Salt Pond River, Eastham, Survey . . . . .	—	210 11
Salter's Point, Dartmouth, Breakwater . . .	4,500 00	42,939 57
Sand Hills, Scituate, Wall and jetties. See Scituate.		
Sandwich Harbor, Dredging channel, riprap and jetties . . . . .	—	80,579 84

<sup>1</sup> Paid by surety company.<sup>2</sup> \$57,000 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Concluded.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Saugus River, Lynn and Saugus, Survey and dredging . . . . .	\$2,000 00	\$20,845 17
Scituate, shore protection:		
Beach Street, Scituate . . . . .	17,333 52	34,782 50
Cedar Point, Scituate . . . . .	21,446 64	37,305 40
First and Second Cliffs, Scituate . . . . .	2,297 92	13,053 52
Glades, Scituate . . . . .	12,250 78	27,619 58
Humarock Beach, Scituate . . . . .	37,816 38	56,960 63
North Scituate — Surfside . . . . .	1,757 60	16,261 31
Sand Hills, Scituate . . . . .	4,511 26	12,624 06
Third Cliff, Scituate . . . . .	75,193 10	120,705 12
Scituate Harbor, Dredging . . . . .	13,300 00	125,057 83
Seorton Harbor, Sandwich, Jetty and dredging . . . . .	500 00	17,774 34
Sesuit Harbor, Dennis, Jetty . . . . .	1,500 00	24,555 10
Shirley Gut, Survey . . . . .	—	97 05
Sippican Harbor, Marion, Survey . . . . .	—	7 17
Smith's Cove, Gloucester, Survey and dredging . . . . .	3,875 00	13,466 16
South River, Salem, Dredging . . . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, Fenders and excavation . . . . .	—	203 42
Stage Harbor, Chatham, Dikes and survey . . . . .	—	10,803 01
Taunton-Brockton Waterway, Investigation . . . . .	—	5,278 18
Taunton River, Survey and dredging . . . . .	12,500 00	28,697 18
Taunton River-Boston Harbor Canal, Survey . . . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, Survey . . . . .	—	11,786 71
Third Cliff, Scituate, Riprap and survey. See Scituate.		
Vineyard Haven Harbor, Repairing sea wall . . . . .	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, Breakwater and dredging . . . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater, wall and bulkhead . . . . .	2,000 00	55,453 46
Wareham River, Survey and dredging . . . . .	5,000 00	42,567 93
Warren's Cove, Plymouth, Sea wall and survey . . . . .	9,713 98	25,083 02
Watch Hill, Chatham, Survey and riprap . . . . .	—	14,968 75
Wellfleet Harbor, Survey and dredging . . . . .	1,500 00	17,600 29
West Bay, Barnstable and Osterville, Jetties and dredging . . . . .	10,000 00	88,690 61
West Falmouth Harbor, Falmouth, Dredging and breakwater . . . . .	11,473 75	53,586 58
West Harwich, Survey . . . . .	3,000 00	11,692 65
Westfield River, Westfield, Survey and jetties . . . . .	—	6,037 29
Westport Harbor, Jetty extension . . . . .	—	19,025 07
Wild Harbor, Falmouth, Jetty and dredging . . . . .	5,000 00	36,137 71
Winthrop Shore, Sea walls and protective work . . . . .	3,000 00	20,087 02
Witchmere Harbor, Harwich, Jetties and dredging . . . . .	1,000 00	47,956 54
Woods Hole, Great Harbor, Falmouth, Dredging . . . . .	1,500 00	6,968 86
Wrecks, Removal from tidewater . . . . .	—	9,313 72
Yarmouthport Harbor, Survey . . . . .	7,000 00	95,977 37
	<hr/> \$813,663.27	<hr/> \$5,925,970 34

## FEDERAL APPROPRIATIONS AND EXPENDITURES.

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the



close of the fiscal year ending June 30, 1926, are shown in the following tables, furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present under Improvement.*

[Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1926.]

Locality.	Expenditures.	Appropriations.
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Boston Harbor . . . . .	12,793,072 20	13,189,827 58
Beverly Harbor . . . . .	127,553 42	245,090 41 <sup>1</sup>
Mystic River . . . . .	306,684 84	330,684 84
Weymouth Fore River . . . . .	622,556 81	633,750 00 <sup>1</sup>
Plymouth Harbor . . . . .	368,433 68	420,459 80 <sup>2</sup>
Pollock Rip Shoals, Nantucket Sound . . . . .	1,184,426 70	1,240,000 00
Harbor of Refuge, at Nantucket . . . . .	632,280 83	633,473 50
New Bedford and Fairhaven Harbor . . . . .	897,666 95	899,610 00
Fall River Harbor . . . . .	410,589 41	412,411 49
Taunton River . . . . .	204,305 90	204,689 18
Total . . . . .	\$18,048,470 74	\$18,710,896 80

TABLE NO. 2. — *Localities in which Work is not now in Progress.*

[Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army.]

Locality.	Expenditures.	Appropriations.
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Gloucester Harbor . . . . .	538,183 00	538,183 00
Salem Harbor . . . . .	71,368 66	71,368 66
Lynn Harbor . . . . .	471,637 00	471,637 00
Malden River . . . . .	149,950 00	149,950 00
Dorchester Bay and Neponset River . . . . .	95,008 00	95,008 00
Weymouth Back River . . . . .	27,000 00	27,000 00
Provincetown Harbor . . . . .	348,062 72	348,062 72
Sandy Bay, Cape Ann, harbor of refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Martha's Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Scituate Harbor . . . . .	104,590 98	104,680 00
Town River . . . . .	37,577 41	37,577 41

<sup>1</sup> In addition \$100,000 has been contributed by local interests.

<sup>2</sup> In addition \$108,400 has been contributed by local interests.

TABLE NO. 2. — *Localities in which Work is not now in Progress.* — Concluded.

Locality.	Expenditures.	Appropriations.
Vineyard Haven Harbor . . . . .	\$55,387 35	\$60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Total . . . . .	\$5,315,945 05	\$5,338,530 35

*Recapitulation.*

Total of Table No. 1 . . . . .	\$18,048,470 74	\$18,710,896 80
Total of Table No. 2 . . . . .	5,315,945 05	5,338,530 35
Grand total . . . . .	\$23,364,415 79	\$24,049,427 15

## EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1926.

[The tributaries given are those now under improvement and do not include tributaries heretofore improved.]

Boston Harbor proper <sup>1</sup> . . . . .	\$12,793,072 20	\$13,189,827 58
Mystic River . . . . .	306,684 84	330,684 84
Total . . . . .	\$13,099,757 04	\$13,520,512 42

<sup>1</sup> Including Chelsea Creek.



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER

CON-TRACT No.	Work.	Contractor.	Date.
116	Oak Bluffs, concrete sea wall and timber jetties.	Guiney & Hanson Construction Co.	June 11, 1925
123	Viaduct and Ramp, South Boston, painting.	Steves Lacios Company . . .	Sept. 10, 1925
124	Point Allerton, Hull, sea wall . . .	Bradford Weston . . .	Sept. 8, 1926
126	Waquoit Breakwater, repairs . . .	William E. Burke . . .	Oct. 1, 1925
127	Oak Bluffs, riprap . . .	William E. Burke . . .	Oct. 1, 1925
128	Cohasset Harbor, dredging . . .	Bay State Dredging & Contracting Co.	Oct. 9, 1925
129	Commonwealth Pier 5, office building .	George W. Nicoll Co., Inc. . .	Nov. 6, 1925
130	Menamsha, riprap in front of sea wall .	William E. Burke . . .	Nov. 19, 1925
131	East Boston, Pier 1, bulkhead . . .	Bay State Dredging & Contracting Co.	Mar. 18, 1926
132	East Boston, Pier 1, fences . . .	W. H. Ellis & Son Co. . .	Apr. 6, 1926
133	Anchor St., So. Boston, repaving . . .	J. J. McCarthy & Co. . .	May 6, 1926
134	Plymouth State Pier, repairs . . .	William L. Miller . . .	May 19, 1926
135	West Falmouth, breakwater . . .	William L. Miller . . .	June 24, 1926
136	Smiths Cove and Ipswich Bay, Gloucester, dredging. Rockport Harbor, removal of boulders.	Bay State Dredging & Contracting Co.	May 27, 1926
137	Commonwealth Pier, 5, South Boston, electric brakes on elevators.	Geo. T. McLauthlin Co. . .	June 16, 1926
138	Falmouth Inner Harbor, dredging .	William E. Burke . . .	June 16, 1926
139	Commonwealth Pier 5, South Boston, repairing timber platforms.	W. H. Ellis & Son Co. . .	July 2, 1926
140	Cape Poge, Edgartown, entrance channel	Bay State Dredging & Contracting Co.	July 22, 1926
141	Allen's Harbor, Harwich, timber jetties .	Starbuck and Thomas . . .	Aug. 30, 1926

## WATERWAYS AND PUBLIC LANDS, AND IN FORCE DURING THE YEAR ENDING 30, 1926.

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1926.	Total paid to Nov. 30, 1926.	Estimated Amount of Contract.
Completed Feb. 17, 1926	For furnishing materials and constructing concrete wall and steps, \$19.25 per cubic yard of concrete measured in completed work. For furnishing materials and constructing timber spur jetties, \$8.50 for each linear foot measured in place. For excavating material from bank back of wall and placing as filling back of wall, 75 cents per cubic yard of material measured in place. Lump sum of \$8,400 . . . . .	\$22,257 02 4,116 00	\$44,755 46 8,400 00	\$45,663 00 8,400 00
Completed Apr. 28, 1926 In progress	For furnishing materials and building wall, \$15 per cubic yard of concrete measured in completed work. For furnishing and placing stone riprap, \$4.75 per linear foot of wall. For furnishing and placing filling back of wall, \$2.00 per cubic yard of fill. For furnishing and placing reinforcing steel and steel dowels, 4 cents per pound of steel placed. For furnishing and placing one and one-quarter inch eye bolts, \$3.00 per bolt placed.	23,590 90	23,590 90	67,588 00
Completed Oct. 22, 1926	For furnishing and placing granite quarry grout in a beacon at the end of breakwater, \$6.95 for each ton in place in completed work.	1,229 35	1,229 35	2,000 00
Completed Sept. 7, 1926	For furnishing and placing granite quarry grout, \$6.95 for each ton in place in completed work.	2,678 70	2,678 70	5,560 00
Completed May 1, 1926	For dredging, 49½ cents per cubic yard, measured in scows. For removing boulders, \$18 per cubic yard. Lump sum of \$8,400 . . . . .	16,273 98 7,186 20	16,273 98 8,400 00	12,000 00 8,400 00
Completed Jan. 28, 1926	For furnishing and placing stone chips and riprap, \$9.89 for each ton of 2,000 pounds.	10,912 52	10,912 52	9,500 00
Completed Apr. 3, 1926	For building bulkhead complete, \$49 for each linear foot of completed bulkhead.	5,471 00	5,471 00	5,525 00
Completed May 5, 1926	For piles, \$38 for each pile driven. Lump sum of \$2,343 . . . . .	1,991 55	1,991 55	2,343 00
Completed Nov. 17, 1926	Unit prices . . . . .	—	—	1,163 00
No work begun	Lump sum of \$3,176 . . . . .	3,176 00	3,176 00	3,176 00
Completed July 27, 1926	For furnishing materials and building pile and timber breakwater, \$37 per linear foot of main breakwater complete in place.	14,874 00	14,874 00	14,874 00
Completed Oct. 5, 1926	For dredging in Smith's Cove, 42 cents per cubic yard, scow measurement.	7,814 76	—	—
Smith's Cove Completed Aug. 7, 1926	For removal of boulders in Smith's Cove and Ipswich Bay, \$18 per cubic yard.	—	—	—
Ipswich Bay Completed July 21, 1926	For dredging channel in Ipswich Bay, 57 cents per cubic yard, scow measurement.	11,884 50	21,270 06	22,515 00
Rockport Harbor Completed July 13, 1926	For removing boulders in entrance channel to Rockport Harbor, \$105 per cubic yard.	1,570 80	—	—
Completed Sept. 30, 1926	Lump sum of \$2,925 . . . . .	2,925 00	2,925 00	2,925 00
Completed Aug. 10, 1926	For dredging, 45 cents per cubic yard, scow measurement. For removing boulders, \$15 per cubic yard. For dredging from area west of west jetty, lump sum of \$150.	2,987 25	2,987 25	3,075 00
Completed Nov. 4, 1926	Unit prices . . . . .	5,197 24	5,197 24	6,422 00
Completed Oct. 13, 1926	For dredging, 62 cents per cubic yard, scow measurement. For removing boulders, \$18 per cubic yard. For furnishing and placing granite riprap and chips in the jetties, \$5.70 per ton of 2,000 pounds. For furnishing and placing granite chips as riprap on the channel slopes, \$6.00 per ton of 2,000 pounds.	35,123 48	35,123 48	33,000 00
In progress	For furnishing materials and building pile and timber jetties, \$19.65 per linear foot of jetty in place.	5,010 75	5,010 75	13,755 00



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER

CON- TRACT No.	Work.	Contractor.	Date.
142	Mystic River, dredging . . .	Bay State Dredging & Contracting Co.	Sept. 17, 1926
143	Provincetown Shore Protection . .	J. W. Nickerson . . .	Oct. 1, 1926
144	Commonwealth Pier No. 5, South Boston, painting offices, corridors, etc.	Maurice M. Devine . . .	Sept. 30, 1926
145	Dredging between wharves of Commonwealth known as Staples Coal Co. and Metropolitan Coal Co. Wharves.	Bay State Dredging & Contracting Co. . .	Oct. 7, 1926
146	Dredging shoal westerly of Anchorage Basin, East Boston.	Eugene Breymann . . .	Oct. 25, 1926
147	Commonwealth Pier No. 5, South Boston, additional drainage for concourse.	Joseph P. O'Hearn . . .	Oct. 25, 1926

WATERWAYS AND PUBLIC LANDS, AND IN FORCE DURING THE YEAR ENDING 30, 1926 — *Concluded.*

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1926.	Total paid to Nov. 30, 1926.	Estimated Amount of Contract.
Completed Nov. 2, 1926	For dredging, 48 cents per cubic yard scow measurement.	\$13,666 78	\$13,666 78	\$10,580 00
In progress	For removing boulders, \$20 per cubic yard. For furnishing and placing heavy stone riprap, \$6.24 for each ton of 2,000 pounds in the completed work.	1,511 90	1,511 90	1,500 00
In progress	For furnishing and placing stone chips in back of and under the heavy riprap, \$6.24 for each ton of 2,000 pounds in the completed work. Lump sum of \$2,970 . . . . .	1,640 92	1,640 92	2,970 00
Completed Oct. 31, 1926	For dredging, 44 cents per cubic yard measured in scows.	3,508 49	3,508 49	2,658 00
Completed Nov. 19, 1926	For removing boulders, \$18 per cubic yard. For dredging, 29.5 cents per cubic yard measured in scows.	9,291 29	9,291 29	8,860 00
In progress	For removing boulders, \$10 per cubic yard. Lump sum of \$2,980 . . . . .	—	—	2,980 00



# INDEX

## *Department of Public Works*

	PAGE
Appropriations . . . . .	2
Organization, under chapter 16, General Laws . . . . .	1
Personnel . . . . .	1
Recommendations for Legislation . . . . .	42

## *Division of Highways*

Advertising Signs and Devices within the Public View . . . . .	41
Bridges, in general . . . . .	25-30
Fall River-Somerset,—over Taunton River . . . . .	31
Newburyport-Salisbury,—over Merrimack River . . . . .	31
Common Carriers, Permits to use Highways . . . . .	41
Contract Prices Dec. 1, 1925, to Nov. 30, 1926 . . . . .	44
Contracts signed during the Year . . . . .	13
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties . . . . .	10
Expenditures, Summary for the Year . . . . .	10
Federal Aid in Constructing Highways . . . . .	22
Allotments to Massachusetts . . . . .	22
Mileage . . . . .	23
Statement of Road Projects . . . . .	23
General Statement as to Surveys, Plans, Estimates and other Work during the Year . . . . .	11
Highway Improvements authorized by Special Acts . . . . .	21
Expenditures during the Year in the Five Western Counties . . . . .	22
Interstate Highway Routes and Signs . . . . .	41
Maps, sale of . . . . .	42
Petitions, Meetings and Hearings . . . . .	10
Public Ways, exclusive of State Highways, in certain Towns . . . . .	36
Allotments or Contributions by the State and Towns . . . . .	36
Expenditures in Various Counties and Towns . . . . .	39
Towns where Work has been contracted for . . . . .	36
Southern Route . . . . .	22
State Highways . . . . .	11, 12
Construction and Reconstruction . . . . .	13
Contracts entered into for Work in Various Municipalities . . . . .	13
Expenditures in Various Counties and Municipalities . . . . .	19
Contracts for Reconstruction in anticipation of an appropriation . . . . .	40
Maintenance and Repair . . . . .	20
Expenditures in Various Counties and Municipalities . . . . .	20
Permits issued for Opening or Occupying State Highways . . . . .	12
Petitions received during the Year . . . . .	10, 12
Regulation of Traffic during Winter of 1925-26 . . . . .	40
Resurfacing and Widening . . . . .	12
Through way (Newburyport Turnpike) . . . . .	41
Trees . . . . .	12
Town and County Ways . . . . .	31
Allotments or Contributions by the State, Towns and Counties . . . . .	31
Expenditures in Various Counties and Towns . . . . .	34
Towns where Work has been contracted for . . . . .	31
Type of Road and Length contracted for . . . . .	31

## *Registry of Motor Vehicles*

Accident Report Letters . . . . .	49
Aircraft Registrations . . . . .	52
Analysis of Court Abstracts received . . . . .	49
Brakes . . . . .	52

	PAGE
Branch Offices . . . . .	53
Comparative Statement for 1925 and 1926 . . . . .	56
Comparative Statement showing Ratio of Yearly Registrations to Deaths and Injuries; and Suspensions, etc. . . . .	49
Conference of Motor Vehicle Administrators . . . . .	52
Examinations for Licenses . . . . .	51
Expenditures for 1926 . . . . .	55
Headlighting . . . . .	51
Investigations and Prosecutions by Inspectors . . . . .	49
Motor Vehicle Deaths, Injuries, Collisions . . . . .	48
Number of Children killed and injured . . . . .	48
Number of Collisions . . . . .	48
Number of Persons killed and injured . . . . .	48
Rear Lamps . . . . .	52
Registrations, Licenses, Fees . . . . .	54
Analysis of Receipts . . . . .	54
Cost of Running the Registry of Motor Vehicles . . . . .	55
Court Fines received by the Treasurer and Receiver General . . . . .	54
Motor Vehicle Fees Rebated . . . . .	54
Passenger Cars, Commercial Vehicles and Motor Cycles . . . . .	54
Total Receipts credited Highway Fund, 1926 . . . . .	54
Revocations and Suspensions for 1925-26 . . . . .	50
Used-car Section . . . . .	52
Motor Vehicle Identification . . . . .	52
Engine Numbers assigned . . . . .	53
Motor Vehicles stolen . . . . .	53
Reports . . . . .	53

*Division of Waterways and Public Lands*

Allen's Harbor, Harwich . . . . .	61
Angle Tree Monument Reservation . . . . .	66
Annisquam River, Gloucester . . . . .	61
Beverly Harbor . . . . .	61
Boston Harbor . . . . .	57
Commonwealth Flats at East Boston . . . . .	59
Aircraft Landing Field . . . . .	59
Commonwealth Pier No. 1 . . . . .	59
Dredging and filling . . . . .	59
Commonwealth Flats at South Boston . . . . .	57
Commonwealth Pier No. 5 . . . . .	57
Development of Land south of Summer Street . . . . .	58
Railroad yard built by the Federal Government . . . . .	58
Staples Coal Wharf and Metropolitan Coal Wharf . . . . .	58
Viaduct and Ramp . . . . .	58
Expenditures for Development and Improvement in Boston Harbor, 1859-1926, inclusive . . . . .	70
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1926, inclusive . . . . .	71
Grand Junction Wharves, East Boston, Dredging near . . . . .	59
Mystic River, Charlestown . . . . .	59
Point Allerton Sea Wall, Hull . . . . .	60
Cape Poge Channel, Edgartown . . . . .	61
Cohasset Harbor . . . . .	62
Conserving and Equalizing the Flow of Water in Rivers and Streams . . . . .	68
Contracts made and in force during year ending Nov. 30, 1926 . . . . .	81
Cotuit Shore Protection, Barnstable . . . . .	62
Ellisville Harbor, Plymouth . . . . .	62
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1926, excepting Boston Harbor . . . . .	72
Expenditures and Contributions for River and Harbor Work, Dec. 1, 1925, to Nov. 30, 1926, excepting Boston Harbor . . . . .	71



Falmouth Inner Harbor . . . . .	62
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1926 . . . . .	75
Great Ponds . . . . .	66
Access to:	
Island Creek Pond, Duxbury . . . . .	67
Little Pond, Sherborn . . . . .	67
South Pond, Savoy . . . . .	67
Walker's Pond, Harwich . . . . .	67
Ipswich River, Ipswich . . . . .	63
Licenses and Permits . . . . .	68
Menamsha Sea Wall . . . . .	63
New Bedford State Pier . . . . .	63
Oak Bluffs Sea Walls and Riprap . . . . .	64
Plymouth, Commonwealth Property . . . . .	64
Port of Boston Fund . . . . .	69
Province Lands . . . . .	67
Provincetown Shore Protection . . . . .	64
Provincetown Tercentenary Commission . . . . .	65
Receipts, 1926 . . . . .	69
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor . . . . .	60
Rockport Harbor . . . . .	65
Scituate . . . . .	65
Smith's Cove, Gloucester . . . . .	65
Special Reports to Legislature . . . . .	69
State Boundaries . . . . .	67
Topographical Map of Massachusetts, Boundary Atlases and other Maps . . . . .	68
Triangulation Stations, Re-establishment of Certain . . . . .	68
Waquoit Bay, Falmouth and Mashpee . . . . .	66
West Falmouth Harbor, Falmouth . . . . .	66







# The Commonwealth of Massachusetts

## DEPARTMENT OF PUBLIC WORKS.

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.*

Pursuant to the provisions of law, the eighth annual report of the Department of Public Works for the fiscal year ending Nov. 30, 1927, is submitted.

The organization of the Department in two divisions, as set forth in chapter 16, General Laws, was modified during the year by chapter 297, Acts of 1927, which consolidated the Division of Highways and the Division of Waterways and Public Lands into a unified department, effective on July 23, 1927.

Chapter 297, Acts of 1927, provided as follows: —

“Section 1. Sections one and three of chapter sixteen of the General Laws are hereby repealed.

Section 2. Section two of said chapter sixteen is hereby amended by striking out, in the first line, the words ‘The department’ and inserting in place thereof the words: — There shall be a department of public works which, — and by striking out, in the second line, the word ‘four’ and inserting in place thereof the word: — two, — so as to read as follows: — Section 2. There shall be a department of public works which shall be under the supervision and control of a commissioner of public works and two associate commissioners. Upon the expiration of the term of office of a commissioner or an associate commissioner, his successor shall be appointed for three years by the governor, with the advice and consent of the council. The commissioner shall receive such salary, not exceeding seventy-five hundred dollars, and the associate commissioners such salaries, not exceeding six thousand dollars, as the governor and council may determine. The commissioner and associate commissioners shall be allowed their actual traveling and other necessary expenses.

Section 3. Said chapter sixteen is hereby further amended by striking out section four and inserting in place thereof the following: —

Section 4. The commissioner shall be the executive and administrative head of the department. He shall approve all contracts made by the department, and may require any of the expenditures of the department to be submitted to him for approval. Except as otherwise expressly provided, the concurrence of at least a majority of the commissioner and associate commissioners shall be necessary in every official act of the department. The commissioner may appoint and remove such officials and employees as the work of the department may require, and fix their compensation. He may from time to time assign to such officials and employees such duties as the work of the department may require, except where especially assigned by law.

Section 4. Said chapter sixteen, as amended in section six by section two of chapter five hundred and thirty-four of the acts of nineteen hundred and twenty-two, is hereby further amended by striking out said section six and inserting in place thereof the following: — Section 6. Except as otherwise provided by sections thirty-one and fifty-eight of chapter ninety and section sixty of chapter one hundred and forty, all rules and regulations within the jurisdiction of the department shall be drafted by the commissioner and associate commissioners and shall take effect when approved by them, and at such time as they shall designate. Said commissioner and associate commissioners shall also have power to make all needful rules and regulations for carrying out the provisions of law relating to the department.

Section 5. As soon as may be after the effective date of this act, the commissioner of public works shall proceed to consolidate the division of highways and the division of waterways and public lands under the provisions of section four of chapter sixteen of the General Laws, as amended by this act; provided, that nothing in this act shall affect the tenure of office or the rights, powers, duties and obligations of the registrar of motor vehicles or any employees serving under him. After said



effective date, all the rights, powers, duties and obligations theretofore conferred or imposed upon the division of highways and the division of waterways and public lands of the department of public works, or either of them, shall be exercised and performed by said department; and, when used in any statute, ordinance, by-law, rule or regulation, the phrase 'division of highways' or 'division of waterways and public lands' or any words connoting the same shall mean the department of public works, unless a contrary intention clearly appears.

Section 6. All books, papers, maps, charts, plans, records and all other equipment in the possession of, or used solely in connection with, the division of highways and the division of waterways and public lands, or either of them, shall, on the effective date of this act, be delivered into the custody of the department of public works. All petitions, hearings and other proceedings pending before either of said divisions or any officer thereof, and all prosecutions, legal or other proceedings and investigations begun by either of said divisions and not completed at the time of the taking effect of this act, shall continue unabated and remain in full force and effect, notwithstanding the passage of this act, and may be completed before, by or in the name of the department of public works. All orders, rules and regulations made by either of said divisions or any officer thereof which are in effect immediately prior to the time this act takes effect shall remain in full force and effect until revoked or modified in accordance with law by said department. All contracts and obligations of either of said divisions, in force on said effective date, shall, notwithstanding the provisions of this act, remain in full force and effect and, after said effective date, be performed by said department.

Section 7. After the effective date of this act, the department of public works shall continue as theretofore constituted, except as otherwise provided in this act. The present commissioner of said department, and the two associate commissioners last appointed prior to the passage of this act, shall continue to hold office in accordance with the terms of their appointment subject to all provisions of general law, but the tenure of office of any associate commissioner continuing to hold office after the expiration of his term shall cease and determine and his office shall cease to exist on said effective date. Approved April 23, 1927."

The personnel during the year, prior to July 23, 1927, was as follows: —  
Commissioner of Public Works, WILLIAM F. WILLIAMS.

*Division of Highways.*

Associate Commissioner, FRANK E. LYMAN.

*Division of Waterways and Public Lands.*

Associate Commissioner, JESSE B. BAXTER.

Associate Commissioner, RICHARD K. HALE.

The clerical organization was as follows: —

*Division of Highways.*

Recording Secretary for the Division, MARY A. RILEY.

Financial Secretary for the Division, FRED FAIR.

*Division of Waterways and Public Lands.*

Recording Secretary for the Division, EDNA F. TOWNSEND.

Financial Secretary for the Division, CORA I. ALLEN.

Subsequent to July 23, the personnel of the Department was as follows: —

Commissioner of Public Works, WILLIAM F. WILLIAMS.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, FRANK E. LYMAN.

Chief Highway Engineer, ARTHUR W. DEAN.

Highway Engineer, FRANKLIN C. PILLSBURY.

Highway Engineer, RAYMOND W. COBURN.

Highway Engineer, GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

## District Highway Engineers:

- District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.
- District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.
- District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.
- District No. 4, F. D. SABIN, — Middlesex County.
- District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.
- District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.
- District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.
- District Waterways Engineer, for Boston Harbor, JOHN N. FERGUSON.
- District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.
- Secretary, MARY A. RILEY.
- Financial Secretary, FRED FAIR.

*Registry of Motor Vehicles.*

- Registrar, FRANK A. GOODWIN.
- Deputy Registrar, ANTHONY A. BONZAGNI.
- Chief Administrative Clerk, CHARLES R. GILLEY.
- Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report is presented herewith, covering the activities for the year of the Department, including also such as occurred under the previous form of organization of the Division of Highways, Division of Waterways and Public Lands and the Registry of Motor Vehicles.

WILLIAM F. WILLIAMS,  
*Commissioner of Public Works.*

DEC. 1, 1927.

## SPECIAL REPORTS TO THE LEGISLATURE.

Snow removal from the main State highways of the Commonwealth. Report made Dec. 1, 1926; by the Division of Highways, under an order of the Senate adopted May 26, 1926. (Senate 3 of 1927.)

Dredging Town River in the City of Quincy and improving the adjacent territory. Report made Dec. 1, 1926, by the Department of Public Works under chapter 27, Resolves of 1926. (Senate 5 of 1927.)

Certain alleged discriminatory wharfage charges on piers controlled by the Commonwealth. Report made Dec. 1, 1926, by the Department of Public Works, under chapter 28, Resolves of 1926. (Senate 6 of 1927.)

The establishment of a State highway and reservation along certain sections of the British trail in Lexington and Concord as a Revolutionary War Memorial. Report made Dec. 1, 1926, by the Department of Public Works, under chapter 49, Resolves of 1926. (Senate 8 of 1927.)

Dredging of the Acushnet River and its tributaries in the city of New Bedford and in the towns of Acushnet and Fairhaven. Report made Dec. 1, 1926, by the Department of Public Works, under chapter 53, Resolves of 1926. (Senate 9 of 1927.)

Acquiring right of way for public access to the great pond known as Little Pond, in the town of Sherborn. Report made Jan. 25, 1926, by the Division of Waterways and Public Lands and the Attorney General, under chapter 453, Acts of 1923. (Senate 19 of 1927.)

Acquiring right of way for public access to South Pond in the town of Savoy. Report made Dec. 1, 1926, by the Division of Waterways and Public Lands and the Attorney General, under chapter 453, Acts of 1923. (House 123 of 1927.)



The desirability and cost of a roadway from Squantum in the city of Quincy to Pemberton in the town of Hull by way of Peddock's Island or otherwise. Report made Dec. 1, 1926, by the Department of Public Works, under chapter 42, Resolves of 1926. (House 124 of 1927.)

The establishment of a Free Port within the Port of Boston. Report made Dec. 1, 1926, by the Division of Waterways and Public Lands, under an order of the House of Representatives adopted May 28, 1926. (House 178 of 1927.)

Acquiring a right of way for public access to Island Creek Pond in the town of Duxbury. Report made Dec. 31, 1926, by the Division of Waterways and Public Lands, and the Attorney General, under chapter 453, Acts of 1923. (House 227 of 1927.)

The filling of the navigable waters of a part of Fort Point Channel and South Bay in the city of Boston. Report made Nov. 29, 1926, by a Special Commission, consisting of the Commissioner of Public Works, the Chairman of the Division of Metropolitan Planning, and the Chairman of the Boston City Planning Board, under chapter 50, Resolves of 1926. (House 122 of 1927.)

### RECOMMENDATIONS FOR LEGISLATION.

#### *Obstruction of Harbors by the Grounding of Vessels and Other Floating Structures.*

The present law, Section 49, Chapter 91, General Laws, relating to the intentional grounding of any vessel, scow, lighter or similar floating structure within the limits of any harbor of the Commonwealth provides for civil action, but the menace to navigation by vessels grounded or abandoned is so important a matter that the law should be amended to provide for criminal rather than civil action in cases of intentional grounding and abandoning of vessels within the tide waters of the Commonwealth.

#### *City of Boston to Convey a Portion of Marine Park to the Commonwealth.*

In connection with the dredging of the Reserved Channel in South Boston the Commonwealth built a bulkhead enclosing the flats adjoining Marine Park, to receive the dredged material, which created a considerable area of filled land now the property of the Commonwealth. The City of Boston owns a strip of land along the original shore line between Farragut Road and the Commonwealth Flats which was acquired as a part of Marine Park. In order that the Commonwealth may have an adequate entrance to its property it is desirable to establish a new line between the property of the City of Boston and the Commonwealth, inasmuch as the City of Boston cannot transfer park property without legislative authority.

It is recommended that this authority be granted.

#### *Relieving the Registrar of Motor Vehicles from Liability to Account for Certain Shortages in the Funds of the Registry of Motor Vehicles.*

Various shortages have occurred at the Registry of Motor Vehicles, one resulting from burglary at the branch office in Quincy, and one supposedly by theft from the branch office in Springfield, with other losses from various causes covering a period of years from 1920 to 1927 inclusive, all as shown by the Auditor's report of his examination of the accounts of the Registry.

It now appears desirable that these shortages be written off in order to save carrying them forward from year to year with no prospect of repayment.

### APPROPRIATIONS.

Chapter 138, Acts of 1927, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

#### *Requirements for Extinguishing the State Debt.*

Item

214. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million three hundred thirty-four thousand four hundred thirty-seven dollars and fifty cents, payable from the following accounts and funds in the following amounts: —

Item

from receipts from loans for the abolition of grade crossings the sum of thirty-four thousand dollars; from the Highway Fund, the sum of five hundred forty-three thousand four hundred thirty-seven dollars and fifty cents; from the balance of the receipts of the sale of the Boston dry dock, two hundred twenty-six thousand dollars; and the remainder from the general fund . . . . . \$1,334,437 50

*Interest on the Public Debt.*

215. For the payment of interest on the direct debt and temporary loans of the Commonwealth, a sum not exceeding one million two hundred seventy thousand dollars, of which sum five hundred twelve thousand seven hundred one dollars and twenty-five cents shall be paid from the Highway Fund . . . . . 1,270,000 00

*Service of the Department of Banking and Insurance.  
Division of Insurance.*

292. For expenses of administering the law relative to motor vehicle liability insurance, including expenses of the board of appeal, a sum not exceeding eleven thousand six hundred dollars, the same to be paid from the Highway Fund . . . . . 11,600 00

*Service of the Department of Public Works.*

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston Receipts:

622. For the salaries of the commissioner and the associate commissioners, a sum not exceeding twenty-five thousand five hundred dollars . . . . . 25,500 00  
623. For personal services of clerks and assistants to the commissioner, a sum not exceeding fourteen thousand three hundred dollars . . . . . 14,300 00  
624. For traveling expenses of the commissioner, a sum not exceeding two thousand dollars . . . . . 2,000 00

Division of Highways (the following appropriations for the operation and maintenance of this division, except as otherwise provided, are made from the Highway Fund):

625. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding seventy thousand five hundred dollars. . . . . 70,500 00  
626. For traveling expenses of the associate commissioners, when traveling in the discharge of their official duties, a sum not exceeding twenty-five hundred dollars . . . . . 2,500 00  
627. For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding thirteen thousand dollars . . . . . 13,000 00  
628. For the care, repair and storage, replacement and purchase of road-building machinery and tools, a sum not exceeding one hundred seventy-five thousand dollars. . . . . 175,000 00  
629. For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars . . . . . 12,000 00  
630. For the construction and repair of town and county ways, a sum not exceeding one million seven hundred thousand dollars . . . . . 1,700,000 00



## Item

631.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred thousand dollars . . . . .	\$900,000 00
632.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, a sum not exceeding seven million one hundred twenty thousand dollars . . . . .	7,120,000 00
633.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding twenty-five thousand dollars . . . . .	25,000 00
634.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars in addition to any other funds which the department has available for the purpose.	
635.	For administering the law relative to advertising signs near highways, a sum not exceeding ten thousand dollars, to be paid from the general fund . . . . .	10,000 00
	Registration of Motor Vehicles:	
636.	For personal services, a sum not exceeding six hundred fifty thousand dollars . . . . .	650,000
637.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment including telephone installation, and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred thousand dollars . . . . .	500,000 00
	Special:	
638.	For the second instalment on the part of the Commonwealth for the construction of the southern traffic artery, so-called, as authorized by chapter three hundred and thirty of the acts of nineteen hundred and twenty-five, a sum not exceeding three hundred thousand dollars, to be paid from the Highway Fund . . . . .	300,000 00
	Division of Waterways and Public Lands:	
639.	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand dollars . . . . .	50,000 00
640.	For necessary traveling expenses of the associate commissioners, a sum not exceeding one thousand dollars . . . . .	1,000 00
641.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding five thousand dollars . . . . .	5,000 00
642.	For care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .	5,000 00
643.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding twenty-five thousand dollars . . . . .	25,000 00

## Item

644.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding sixty thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes, provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations and individuals . . . . .	\$60,000 00
645.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, a sum not exceeding one thousand dollars . . . . .	1,000 00
646.	For expenses of surveying certain town boundaries, by the division of waterways and public lands, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	1,000 00
647.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the port of Boston receipts. . . . .	110,000 00
648.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the port of Boston receipts . . . . .	8,000 00
649.	For the maintenance and improvement of commonwealth property under the control of the division, a sum not exceeding ninety thousand dollars, to be paid from the port of Boston receipts . . . . .	90,000 00
650.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding seventy-five hundred dollars . . . . .	7,500 00
651.	For the compensation of dumping inspectors, a sum not exceeding five thousand dollars . . . . .	5,000 00
652.	For expenses authorized by section eighteen A of chapter ninety-one of the General Laws, inserted by chapter four hundred and fifty-three of the acts of nineteen hundred and twenty-three, relative to access to great ponds, a sum not exceeding one hundred dollars . . . . .	100 00
653.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars . . . . .	4,000 00
	Specials:	
654.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding nine thousand dollars . . . . .	9,000 00
655.	For the construction of a certain breakwater or sea wall at Great Head, Winthrop, a sum not exceeding thirty-seven thousand five hundred dollars . . . . .	37,500 00



## Item

- |      |  |          |
|------|--|----------|
| 656. | For expenses necessary to establish the Angle Tree Monument reservation, a sum not exceeding seven hundred and fifty dollars | \$750 00 |
| 657. | For expenses of locating state boundary monuments, a sum not exceeding one thousand dollars                                  | 1,000 00 |

*Miscellaneous.*

The following items are to be paid from the Highway Fund:

- |      |  |            |
|------|--|------------|
| 678. | For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred fifteen thousand dollars, representing the state's portion or one half of the estimated cost of maintenance   | 215,000 00 |
| 679. | For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing   | 50,000 00  |
| 680. | For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twenty-five thousand dollars, representing the state's portion or one half of the estimated cost  | 25,000 00  |
| 681. | For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding thirty-five hundred dollars   | 3,500 00   |
| 682. | For the expense of constructing Old Colony boulevard, so-called, as authorized by chapter three hundred and sixty of the acts of nineteen hundred and twenty-six, a sum not exceeding two hundred fifty thousand dollars, representing the state's portion or one half of the estimated cost of construction, the same to be in addition to any appropriations heretofore made for the purpose | 250,000 00 |

## DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Works.*

## Division of Highways:

- |  |        |
|--|--------|
| For the construction and repair of town and county ways, the sum of eight hundred forty-seven dollars and fifty-two cents, to be paid from the Highway Fund. | 847 52 |
|--|--------|

*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

- |      |   |            |
|------|---|------------|
| 696. | For maintenance of the Charles river basin, a sum not exceeding two hundred one thousand five hundred dollars   | 201,500 00 |
| 697. | For maintenance of park reservations, a sum not exceeding seven hundred seventy-eight thousand four hundred eighty-six dollars and eighty-eight cents | 778,486 88 |
| 698. | For the expense of holding band concerts, a sum not exceeding twenty thousand dollars   | 20,000 00  |

## Item

699.	For improvements at the Revere beach reservation, a sum not exceeding thirty thousand dollars, to be paid from the metropolitan parks expense fund . . . . .	\$30,000 00
700.	For services and expenses of the division of metropolitan planning, as authorized by chapter three hundred and ninety-nine of the acts of nineteen hundred and twenty-three, a sum not exceeding thirty thousand dollars . . . . .	30,000 00
701.	For maintenance of the Nantasket beach reservation, a sum not exceeding eighty-three thousand four hundred dollars . . . . .	83,400 00
702.	For improvements at the Nantasket beach reservation, a sum not exceeding thirty thousand dollars, to be paid from the metropolitan parks expense fund . . . . .	30,000 00
703.	For maintenance of the Wellington bridge, a sum not exceeding ten thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one . . . . .	10,500 00
704.	For maintenance of boulevards and parkways, a sum not exceeding two hundred fifteen thousand dollars, the same to be in addition to the amount appropriated in item six hundred and seventy-eight . . . . .	215,000 00
705.	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and seventy-nine . . . . .	50,000 00
706.	For the expense of constructing Old Colony boulevard, so-called, as authorized by chapter three hundred and sixty of the acts of nineteen hundred and twenty-six, a sum not exceeding two hundred fifty thousand dollars, the same to be assessed upon the metropolitan parks district as a part of the cost of maintenance of boulevards and parkways, and to be in addition to any appropriations heretofore made for the purpose . . . . .	250,000 00
707.	For the maintenance of boulevards and parkways, for the installation of a certain lighting system, a sum not exceeding twenty-five thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty . . . . .	25,000 00

Chapter 343, Acts of 1927, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows: —

## Item

*Service of the Department of Public Works.*

Registration of Motor Vehicles (the following items are to be paid from the Highway Fund):

636.	For personal services, a sum not exceeding eighty-seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$8,700 00
637.	For services other than personal, including traveling expenses, purchase of necessary supplies, equipment including telephone installation, and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	5,000 00



## Item

*Miscellaneous.*

- 682a. For extension of Quincy Shore reservation, as authorized by chapter two hundred and twenty-nine of the acts of the present year, a sum not exceeding seventeen thousand five hundred dollars, the same to be paid from the Highway Fund, and to be in addition to the amount appropriated in item seven hundred and six a . . . \$17,500 00

*Deficiencies.*

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Division of Highways.*

- For certain expenses of previous years on account of maintenance and improvement of highways, the sum of forty-two dollars and fifty-eight cents, the same to be paid from the Highway Fund . . . 42 58
- For certain expenses of previous years on account of care of road building machinery, the sum of fifty-four dollars and seventy-one cents, the same to be paid from the Highway Fund . . . 54 71

*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

697. For maintenance of park reservations, a sum not exceeding thirty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . 30,000 00
- 697a. For constructing a skating pond in the Blue Hills reservation, as authorized by chapter two hundred and thirty of the acts of the present year, a sum not exceeding fifteen hundred dollars . . . 1,500 00
- 697b. For providing parking spaces along the Nahant beach parkway, as authorized by chapter two hundred and thirty-nine of the acts of the present year, a sum not exceeding eight thousand dollars . . . 8,000 00
- 697c. For acquiring certain land on the Charles river in the town of Dedham, as authorized by chapter two hundred and seventeen of the acts of the present year, a sum not exceeding seventy-five thousand dollars . . . 75,000 00
- 706a. For the extension of Quincy Shore reservation, as authorized by chapter two hundred and twenty-nine of the acts of the present year, a sum not exceeding seventeen thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-two a . . . 17,500 00
- 706b. For acquiring certain land along the Charles river, necessary for the laying out of the boulevard authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding forty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-two b . . . 40,000 00
- 706c. For certain improvements relative to the construction of the circumferential highway, so-called, as authorized by chapter three hundred and eleven of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-two c . . . 12,500 00

Item

*Other Appropriations.*

The following three items are to be paid from the Highway Fund:

682b. For acquiring certain land along the Charles river, necessary for the laying out of the boulevard authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding forty thousand dollars, the same to be in addition to the amount appropriated in item seven hundred and six b . . . . .	\$40,000 00
682c. For certain improvements relative to the construction of the circumferential highway, so-called, as authorized by chapter three hundred and eleven of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars, the same to be in addition to the amount appropriated in item seven hundred and six c . . . . .	12,500 00
682d. For the state's proportion of the cost of the construction of the traffic route between the city of Boston and territory north and east thereof, as authorized by chapter three hundred and fifteen of the acts of the present year, a sum not exceeding one hundred thirty-seven thousand five hundred dollars, the same to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	137,500 00

## EXPENDITURES FOR HIGHWAYS

A summary of the expenditures by the Department for Highways during the fiscal year ending Nov. 30, 1927, is as follows:—

For construction of State highways, under chapter 81, General Laws, and chapter 138, Acts of 1927 . . . . .	\$1,834,630 64
For maintenance and repair of State highways, under section 13, chapter 81, General Laws, and chapter 138, Acts of 1927 . . . . .	6,462,583 38
For construction and repair of town and county ways, under section 34, chapter 90, General Laws, as amended, and chapter 138, Acts of 1927 . . . . .	1,681,668 14
For highways in the five western counties, under chapter 221, General Acts of 1915, and chapter 572, Acts of 1920 . . . . .	92,351 06
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws, as amended, and chapter 138, Acts of 1927 . . . . .	904,594 81
For the construction of a highway in the city of Revere, under chapter 501, Acts of 1922, as amended . . . . .	309 63
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925, and section 4, chapter 369 and chapter 398, Acts of 1926 . . . . .	1,247,645 88
For administering the law relative to advertising signs near highways, under chapter 138, Acts of 1927 . . . . .	6,723 37
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912, and chapter 138, Acts of 1927 . . . . .	4,458 68
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street in Fall River, under chapter 717, Acts of 1912, and chapter 138, Acts of 1927 . . . . .	20,242 99
For the care, repair and storage, replacement and purchase of road building machinery and tools, under chapter 138, Acts of 1927 . . . . .	198,801 32
For the suppression of gypsy and brown-tail moths on State highways, under chapter 138, Acts of 1927 . . . . .	11,949 65
For general expenses, under chapter 138, Acts of 1927 . . . . .	80,540 46
Total . . . . .	\$12,546,500 01



CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES.

The Division has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and by chapter 315, Acts of 1926, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$2,658,129.94, for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Division.

PETITIONS, MEETINGS AND HEARINGS.

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the relocation of street railway tracks in Wilbraham, Brockton, East Longmeadow, Taunton, Raynham, West Springfield, Quincy, Braintree, Attleborough, Dedham, Mattapoisett and Braintree; on petitions for the amendment or revision of permits for the operation of bus lines in 46 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 78 cases; on the matter of outdoor advertising in 7 cases; on special motor regulations and on traffic rules.

Petitions were received and contracts signed during the year, as follows: —

	Petitions.	Contracts.
State highways . . . . .	23	70
Work under special acts . . . . .		2
Work under section 34, chapter 90, General Laws, as amended	79	233
Work under section 26, chapter 81, General Laws, as amended	161	161
Totals . . . . .	263	466

GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK DURING THE YEAR

*State Highways.* — During the year ending Nov. 30, 1927, the Department completed construction on 27.141 miles of State highway, portions of which were laid out in 1926. Construction was commenced, but not completed, on about 20 miles of road in 16 cities and towns. Layouts were made of 29.218 miles of State highway in 30 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, and by chapter 105, Acts of 1927, 4.057 miles of State highway were discontinued or abandoned. The total length of State highway at the end of the year was 1,589.743 miles.

*Surveys, Plans and Estimates.* — During the year preliminary surveys, plans and estimates were made as follows: —

*For State Highway Construction.* — Preliminary surveys in 16 towns, 23.208 miles; plans in 24 towns, 36.618 miles; preliminary estimates in 25 towns, 29.191 miles; lines and grades in 22 towns, 25.157 miles; final surveys in 5 towns, 6.229 miles; and final estimates in 11 towns, 13.1 miles.

*For State Highway Reconstruction and Resurfacing.* — Preliminary surveys in 76 towns, 144.723 miles; plans in 80 towns, 153.265 miles; preliminary estimates in 61 towns, 100.252 miles; lines and grades in 71 towns, 105.241 miles; final surveys in 55 towns, 77.377 miles; and final estimates in 54 towns, 85 miles.

Under section 34, chapter 90, General Laws, as amended: — Preliminary surveys in 139 towns, 143.436 miles; plans in 135 towns, 134.306 miles; preliminary estimates in 156 towns, 115.933 miles; lines and grades in 157 towns, 113.262 miles; final surveys in 62 towns, 52.930 miles; and final estimates in 61 towns, 54.5 miles.

Under chapter 40, Resolves of 1927. — Preliminary surveys and estimates in 2 towns, 5.776 miles.

Under chapter 221, General Acts of 1915, as amended. — Preliminary estimates in 1 town, 0.189 miles; final surveys and estimates in 3 towns, 1.204 miles.

Under chapter 330, Acts of 1925, as amended by chapter 369, Acts of 1926. — Lines and grades in 2 cities, 4.356 miles; final survey in 1 city, 0.189 miles.

*For Roads to be Constructed by Towns.* — Preliminary surveys in 3 towns, 1.55 miles; plans in 3 towns, 1.48 miles. Lines and grades in 1 town, 0.006 miles; final survey in 1 town, 0.018 miles; and final estimates in 3 towns, 0.4 miles.

*State Highway Reconnaissance.* — Surveys in 16 towns, 45 miles; plans 0.5 miles.

*Chapter 90 Reconnaissance.* — Surveys and plans, 1.14 miles.

Plans to accompany decrees for Street railway locations on State highways have been made in 12 towns.

*Roads constructed in 1927.* — Construction has been completed on 27.141 miles of State highway; 139.415 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended; and 7.307 miles of highways under the provisions of special acts, making a total of 173.863 miles completed during the year.

Of the above roads completed this year 37.495 miles were of gravel; 19.375 miles were of bituminous concrete; 68.760 miles were of bituminous macadam; 7.287 miles were of reinforced concrete; 39.027 miles were of gravel with a bituminous treatment, 0.474 miles were of earth; 0.006 miles were of granite block; 0.805 miles were of waterbound macadam; and 0.634 miles were of waterbound macadam with a bituminous treatment.

*Resurfacing, Reconstruction and Widening.* — During the year 0.730 miles of State highway were widened, but not resurfaced; and 95.083 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 66.245 miles were of bituminous macadam; 14.826 miles were of bituminous concrete; 11.681 miles were of reinforced cement concrete; 0.095 miles were of gravel; 0.185 miles were of waterbound macadam with a bituminous surface treatment; 0.235 miles were of granite block; 0.197 miles were of wood block; and 1.619 miles were of the dual type, *i.e.*, reinforced cement concrete and bituminous macadam.

*Permits.* — There were 1,950 permits issued during the year for opening or occupying State highways for various purposes.

*Trees on State Highways.* — During the last twenty-three years 54,558 trees have been planted on the borders of State Highways, of which 2,190 were planted this year, the Department continuing its policy of planting quick-growing trees and hedges to replace guard rails.

*Engineering Advice to Municipal Authorities.* — The Department furnished, without charge, engineering advice to 16 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.* — The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 16 towns and cities.

*Approval of Bridge Plans.* — The Department approved during the year, under the provisions of chapter 85, General Laws, as amended by chapter 313, Acts of 1923, plans for the construction of bridges in 17 towns and cities.

## STATE HIGHWAYS.

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

**SELECTMEN OF HARVARD.** — Road locally known as the Lowell-Littleton Road, extending from the Common at Harvard Centre to the dividing line between the towns of Harvard and Littleton. Received March 8, 1927.



- SELECTMEN OF DEDHAM.** — Road locally known as Washington Street, extending from the dividing line between the city of Boston and the town of Dedham to the junction of Washington and High Streets at Dedham Centre. Received March 21, 1927.
- SELECTMEN OF SWANSEA.** — Road extending from a point on the Providence Road near the property of Susan M. Allien, over a new location, to a point on said Providence Road near the property of Adelard LeConte. Received April 7, 1927.
- SELECTMEN OF SHIRLEY.** — Road extending from a point near the property of Otis Kittredge, over a new location, to a point near the property of Lawrence C. E. Hallin. Received May 9, 1927.
- SELECTMEN OF FLORIDA.** — Two cut-offs from the Mohawk Trail, over new locations, in the vicinity of Whitcomb and Western Summits. Received May 12, 1927.
- SELECTMEN OF WEST SPRINGFIELD.** — Road extending from a point on Westfield Street about 1,700 feet from the dividing line between the city of Westfield and the town of West Springfield, over a new location, to a point on said Westfield Street near the property of F. F. Sibley. Received May 20, 1927.
- SELECTMEN OF CHARLTON.** — Road extending from Charlton City, over a new location, via Morseville, to a point about one and one-fourth miles west of the Oxford line. Received June 14, 1927.
- SELECTMEN OF CHELMSFORD.** — Road locally known as the Boston Road, extending from the Hall Road to the dividing line between the towns of Chelmsford and Billerica. Received June 14, 1927.
- SELECTMEN OF CHELMSFORD.** — Road locally known as the North Road, extending from the existing State highway at North Chelmsford, southerly for a distance of about 12,050 feet to the Dalton Road. Received June 14, 1927.
- SELECTMEN OF PALMER.** — Road extending from a point on the Boston-Springfield Road near the Allen Estate, easterly, over a new location, for about 2,000 feet. Received June 25, 1927.
- SELECTMEN OF WILMINGTON.** — Road locally known as Main Street, extending from a point near the Woburn line to a point near the property of George W. Esterbrook. Received June 22, 1927.
- COUNTY COMMISSIONERS OF THE COUNTY OF DUKES COUNTY.** — Road extending from the end of the existing State highway near Gay Head Light House, over a new location, for a distance of 300 feet to a connection again with said State highway. Received June 29, 1927.
- SELECTMEN OF HARWICH.** — Road extending from a point on Main Street near the property of Valentine K. Nickerson to a point on said Main Street at its junction with the lower County Road near the property of Susan D. Shaw. Received July 11, 1927.
- SELECTMEN OF METHUEN.** — Road locally known as Jackson and Howe Streets, extending from the dividing line between the city of Lawrence and the town of Methuen to the dividing line between the town of Methuen and the city of Haverhill. Received July 7, 1927.
- COUNTY COMMISSIONERS OF THE COUNTY OF MIDDLESEX.** — Road extending from a point on the Boston-Worcester Road near Hagar Street in Marlborough, over a new location, through the city of Marlborough and the towns of Framingham and Sudbury, to a point about 1,000 feet south-westerly from Peakham Road in Sudbury. Received July 13, 1927.
- COUNTY COMMISSIONERS OF THE COUNTY OF WORCESTER.** — Road extending from Ashburnham Village through the towns of Ashburnham and Westminster to the dividing line between the town of Westminster and the city of Fitchburg. Received July 20, 1927.
- SELECTMEN OF PLYMOUTH.** — Road extending from Costello's Corner, over a new location, to a point on the existing State highway near the property of Thomas C. Harlow. Received August 19, 1927.
- SELECTMEN OF BUCKLAND.** — Road extending from the junction of Creamery Avenue and Exchange Street to the Dividing line between the towns of Buckland and Charlemont at Scott's Bridge. Received September 1, 1927.
- SELECTMEN OF SHERBORN.** — Road locally known as Washington, Main and

Eliot Streets, extending from the dividing line between the towns of Holliston and Sherborn to the dividing line between the towns of Sherborn and Natick. Received September 27, 1927.

SELECTMEN OF ESSEX. — Road locally known as Martin Street and Western Avenue, extending from the junction of Main and Martin Streets at Raymond's Corner, to the dividing line between the towns of Essex and Hamilton. Received October 4, 1927.

SELECTMEN OF BERNARDSTON. — Road extending from the bridge over Falls River to the dividing line between the towns of Bernardston and Gill. Received October 4, 1927.

SELECTMEN OF GILL. — Road extending from the dividing line between the towns of Bernardston and Gill to the dividing line between the towns of Gill and Northfield. Received October 4, 1927.

SELECTMEN OF NORTHFIELD. — Road extending from the dividing line between the towns of Gill and Northfield to the junction of River and Main Streets. Received October 4, 1927.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS.

(Chapter 81, General Laws, as amended.)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

##### *Seekonk.*

Dec. 22, 1926, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 11,886 feet of State highway on Fall River Avenue, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$113,978.75. Work completed Sept. 6, 1927. Expenditure during 1927, \$126,045.13.

##### *Chelmsford.*

Dec. 21, 1926, contract made with Antonio Pallatto, of Dracut, for reconstructing about 6,663 feet of State highway on the Lowell Road, the surface consisting of bituminous macadam. The proposal amounted to \$47,371.00. Work completed Aug. 9, 1927. Expenditure during 1927, \$47,414.73.

##### *Braintree-Quincy.*

Dec. 21, 1926, contract made with the Lawton Construction Company, of Providence, R. I., for reconstructing about 3,600 feet of State highway on Quincy Avenue in Braintree and about 5,010 feet of State highway on the same road in Quincy, the surface consisting of bituminous macadam. The proposal amounted to \$104,689.00. Work completed Sept. 6, 1927. Expenditure during 1927, \$119,688.97.

##### *Attleboro.*

Dec. 21, 1926, contract made with Carlo Bianchi & Company, Inc., of Framingham, for reconstructing about 9,564 feet of State highway on Washington Street, the surface consisting of two strips of reinforced cement concrete separated by a strip of bituminous macadam. The proposal amounted to \$124,427.50. Work completed Sept. 13, 1927. Expenditure during 1927, \$127,752.55.

##### *Brockton.*

Dec. 21, 1926, contract made with Carlo Bianchi & Company, Inc., of Framingham, for reconstructing about 9,900 feet of State highway on Belmont Street, the surface consisting of bituminous macadam. The proposal amounted to \$86,293.60. Work completed June 14, 1927. Expenditure during 1927, \$80,262.59.

##### *Russell-Westfield.*

Dec. 21, 1926, contract made with Kelleher Corporation, of Montague, for reconstructing about 18,875 feet of State highway on the Russell Road in Westfield and about 175 feet of State highway on the same road in Russell, the surface consisting of bituminous macadam. The proposal amounted to \$150,267.00. Work completed Sept. 13, 1927. Expenditure during 1927, \$156,946.51.



*Wilbraham.*

Dec. 21, 1926, contract made with the Adams & Ruxton Construction Company, of Springfield, for reconstructing about 5,347 feet of State highway on the Boston Road, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$49,707.50. Work completed July 19, 1927. Expenditure during 1927, \$56,173.36.

*Weymouth.*

Dec. 21, 1926, contract made with W. H. Hinman, Inc., of Medway, for reconstructing about 3,830 feet of State highway on Washington Street, the surface consisting of bituminous macadam. The proposal amounted to \$48,197.50. Work completed July 12, 1927. Expenditure during 1927, \$58,924.14.

*Beverly.*

Dec. 28, 1926, contract made with Octavius Menici, of Peabody, for reconstructing about 1,355 feet of State highway on Hale Street, the surface consisting of bituminous macadam. The proposal amounted to \$10,170.70. Work completed May 17, 1927. Expenditure during 1927, \$11,013.81.

*Raynham-Taunton.*

Dec. 28, 1926, contract made with Greany & Sherry, of Fall River, for reconstructing about 13,089 feet of State highway on Broadway in Raynham and about 2,021 feet of State highway on the same road in Taunton, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$156,992.50. Work completed Sept. 20, 1927. Expenditure during 1927, \$172,668.40.

*Winchester.*

Dec. 28, 1926, contract made with Octavius Menici, of Peabody, for reconstructing about 4,200 feet of State highway on Cambridge Street, the surface consisting of bituminous macadam. The proposal amounted to \$14,303.00. Work completed July 5, 1927. Expenditure during 1927, \$17,579.83.

*Bellingham-Blackstone.*

Dec. 28, 1926, contract made with Eugene L. Gobeille, Inc., of Worcester, for reconstructing about 2,917 feet of State highway on Centre Street in Bellingham and about 290 feet of State highway on the same road in Blackstone, the surface consisting of bituminous macadam. The proposal amounted to \$28,541.25. Work completed July 12, 1927. Expenditure during 1927, \$30,283.29.

*Chatham.*

Jan. 4, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 20,932 feet of State highway on the South County Road, the surface consisting of bituminous concrete. The proposal amounted to \$89,463.00. Work completed Aug. 16, 1927. Expenditure during 1927, \$96,643.37.

*Falmouth.*

Jan. 18, 1927, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 18,077 feet of State highway on the Woods Hole Road, the surface consisting of bituminous concrete. The proposal amounted to \$117,286.25. Work completed Oct. 18, 1927. Expenditure during 1927, \$100,790.87.

*Newburyport-Salisbury.*

Feb. 23, 1927, contract made with the Boston Bridge Works, Inc., of Boston, for reconstructing floor system, repairing, cleaning and painting bridge over Merrimack River. The proposal amounted to \$95,459.30. Work completed November 8, 1927. Expenditure during 1927, \$90,975.79.

*Billerica.*

April 12, 1927, contract made with John A. Gaffey & Son, of Medford, for reconstructing about 3,053 feet of State highway on the Burlington-Lowell Road, the surface consisting of bituminous macadam. The proposal amounted to \$17,210.10. Work completed July 5, 1927. Expenditure during 1927, \$17,977.55.

*Haverhill-North Andover.*

April 12, 1927, contract made with Thomas Joseph McCue Construction Company, of Watertown, for reconstructing about 19,647 feet of State highway on Osgood, Stevens, Sutton and Boston Streets in North Andover and about 2,269 feet of State highway on the same road in Haverhill, the surface consisting of bituminous macadam. The proposal amounted to \$123,236.50. Work completed November 1, 1927. Expenditure during 1927, \$119,050.96.

*Needham..*

April 12, 1927, contract made with Reynolds Brothers, Inc., of Boston, for reconstructing about 5,194 feet of State highway on Highland Avenue, the surface consisting of bituminous macadam. The proposal amounted to \$37,313.50. Work completed July 19, 1927. Expenditure during 1927, \$45,351.92.

*Kingston-Duxbury.*

April 12, 1927, contract made with the Lawton Construction Company, of Providence, R. I., for reconstructing about 5,334 feet of State highway on Main Street in Kingston and about 7,699 feet of State highway on Tremont Street in Duxbury, the surface consisting of bituminous macadam. The proposal amounted to \$117,323.60. Work completed October 18, 1927. Expenditure during 1927, \$104,654.24.

*Becket-Otis.*

April 12, 1927, contract made with B. Perini & Sons, of Ashland, for constructing about 6,450 feet of State highway on the Cold Spring and Farmington River Road in Becket and about 25,462 feet of State highway on the same road in Otis, the surface consisting of bituminous macadam. The proposal amounted to \$209,393.25. Work about four-fifths completed. Expenditure during 1927, \$176,569.03.

*Ashburnham-Westminster.*

April 12, 1927, contract made with the H. & J. P. Greene Company of Worcester, for reconstructing about 8,930 feet of State highway on Main Street in Ashburnham and about 10,118 feet of State highway on the Ashburnham Road in Westminster, the surface consisting of bituminous macadam. The proposal amounted to \$179,563.00. Work practically completed. Expenditure during 1927, \$156,039.38.

*Ayer-Shirley.*

April 26, 1927, contract made with the R. H. Newell Company, of Uxbridge, for reconstructing about 8,075 feet of State highway on the North Road in Ayer and about 3,725 feet of State highway on the same road in Shirley, the surface consisting of bituminous macadam. The proposal amounted to \$84,632.75. Work completed October 11, 1927. Expenditure during 1927, \$92,198.37.

*Swansea.*

May 3, 1927, contract made with Joseph McCormick, of Seekonk, for constructing and reconstructing about 14,611 feet of State highway on the Providence Road, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$156,030.50. Work completed Nov. 8, 1927. Expenditure during 1927, \$136,967.18.

*Milton.*

May 10, 1927, contract made with the Lawton Construction Company, of Providence, R. I., for reconstructing about 5,712 feet of State highway on Granite Avenue, the surface consisting of bituminous macadam. The proposal amounted to \$48,748.30. Work completed Oct. 11, 1927. Expenditure during 1927, \$50,246.90.

*Richmond.*

May 10, 1927, contract made with the Hampden Contracting Company, of Longmeadow, for reconstructing about 21,066 feet of State highway on the Pittsfield Road, the surface consisting of bituminous macadam. The proposal amounted to \$149,356.00. Work about four-fifths completed. Expenditure during 1927, \$116,535.90.



*Granby-South Hadley.*

May 17, 1927, contract made with the Kelleher Corporation, of Montague, for reconstructing about 12,988 feet of State highway on the Holyoke Road in Granby and about 12,753 feet of State highway on the same road in South Hadley, the surface consisting of bituminous macadam. The proposal amounted to \$225,809.50. Work completed Nov. 22, 1927. Expenditure during 1927, \$190,729.11.

*Florida-North Adams.*

May 17, 1927, contract made with the Schnare Construction Corporation, of Springfield, for constructing and reconstructing about 2,000 feet of State highway on the Mohawk Trail in North Adams and about 12,882 feet of State highway on the same road in Florida, the surface consisting of waterbound macadam. The proposal amounted to \$198,384.80. On September 15, 1927, the department, acting under the provisions of Article XXXVII of the contract, notified the Schnare Construction Corporation to discontinue all work under the contract. Expenditure during 1927, \$48,132.95.

*Marshfield.*

May 24, 1927, contract made with Antonio Carchia & Sons, of Marshfield, for grading about 376 feet of State highway on Main Street. Work completed July 26, 1927. Expenditure during 1927, \$922.60.

*Sandisfield.*

May 24, 1927, contract made with Charles I. Hosmer, of Montague, for constructing a bridge and approaches on about 2,500 feet of State highway, the surface consisting of bituminous concrete on the bridge and gravel on the approaches. The proposal amounted to \$67,288.00. Work about four-fifths completed. Expenditure during 1927, \$52,975.08.

*Medford-Somerville.*

May 24, 1927, contract made with James H. Fannon, of Somerville, for reconstructing about 4,554 feet of State highway on Mystic Avenue in Medford and about 5,111 feet of State highway on the same road in Somerville, the surface consisting of bituminous macadam in Medford and bituminous concrete in Somerville. The proposal amounted to \$87,175.70. Work completed Nov. 22, 1927. Expenditure during 1927, \$84,519.96.

*Gloucester-Rockport.*

May 24, 1927, contract made with the New Haven Road Construction Company, Inc., of New Haven, Conn., for reconstructing about 2,766 feet of State highway on Eastern Avenue in Gloucester and about 8,451 feet of State highway on the same road in Rockport, the surface consisting of bituminous macadam. The proposal amounted to \$63,900.00. Work completed Oct. 25, 1927. Expenditure during 1927, \$53,711.17.

*Franklin-Wrentham.*

June 7, 1927, contract made with Charles E. Horne, of Millbury, for reconstructing about 6,207 feet of State highway on East Central Street in Franklin and about 10,800 feet of State highway on Franklin Street in Wrentham, the surface consisting of bituminous macadam. The proposal amounted to \$146,529.90. Work completed Nov. 30, 1927. Expenditure during 1927, \$123,730.54.

*Holden-Worcester.*

June 14, 1927, contract made with the New Haven Road Construction Company, Inc., of New Haven, Conn., for reconstructing about 12,156 feet of State highway on Main Street in Holden and about 7,868 feet of State highway on the same road in Worcester, the surface consisting of bituminous macadam. The proposal amounted to \$199,921.00. Work about seven-eighths completed. Expenditure during 1927, \$172,826.86.

*Westport.*

June 14, 1927, contract made with the Callan Construction Company, of Bristol, R. I., for constructing and reconstructing about 24,791 feet of State highway on the Fall River Road, the surface consisting of reinforced cement concrete except for about 520 feet of bituminous macadam. The proposal amounted to \$317,324.20. Work about two-thirds completed. Expenditure during 1927, \$193,416.59.

*West Springfield.*

June 14, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 2,900 feet of State highway on the Westfield Road, the surface consisting of bituminous macadam. The proposal amounted to \$60,596.25. Work completed November 30, 1927. Expenditure during 1927, \$40,257.28.

*Fitchburg-Lunenburg.*

June 21, 1927, contract made with the Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 3,224 feet of State highway on Lunenburg Street in Fitchburg and about 6,930 feet of State highway on Massachusetts Avenue in Lunenburg, the surface consisting of bituminous macadam. The proposal amounted to \$102,483.80. Work practically completed. Expenditure during 1927, \$93,632.13.

*Wrentham.*

June 21, 1927, contract made with Perini & Ampollini, of Plainville, for reconstructing about 7,596 feet of State highway on South Street, the surface consisting of bituminous macadam. The proposal amounted to \$45,393.50. Work completed Oct. 11, 1927. Expenditure during 1927, \$61,734.04.

*Essex.*

July 5, 1927, contract made with the Cement-Gun Company, Inc., of Allentown, Pa., for repairing a reinforced concrete bridge on the State highway over the Essex River. Work completed July 26, 1927. Expenditure during 1927, \$1,558.20.

*Taunton.*

July 12, 1927, contract made with Joseph McCormick, of Seekonk, for reconstructing about 5,250 feet of State highway on Winthrop Street, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$62,196.40. Work completed November 15, 1927. Expenditure during 1927, \$56,462.60.

*Amesbury-Salisbury.*

July 12, 1927, contract made with James E. Watkins Company, of Amesbury, for reconstructing about 979 feet of State highway on Elm Street in Amesbury and about 9,170 feet of State highway on the same road in Salisbury, the surface consisting of bituminous macadam. The proposal amounted to \$61,678.40. Work completed Nov. 22, 1927. Expenditure during 1927, \$52,180.03.

*Monson.*

July 12, 1927, contract made with the New Haven Road Construction Company, Inc., of New Haven, Conn., for constructing and reconstructing about 13,010 feet of State highway on North Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$106,870.25. Work completed Nov. 30, 1927. Expenditure during 1927, \$88,923.33.

*Gay Head.*

July 12, 1927, contract made with Corr & Russell, of Greenfield, for constructing about 1,900 feet of State highway on a new location, the surface consisting of bituminous concrete. The proposal amounted to \$10,425.00. Work completed November 15, 1927. Expenditure during 1927, \$9,469.04.

*Orleans-Eastham.*

July 19, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 19,573 feet of State highway on North County and Chatham Roads in Orleans and about 268 feet of State highway on the North County Road in Eastham, the surface consisting of bituminous concrete. The proposal amounted to \$90,331.00. Work practically completed. Expenditure during 1927, \$80,327.82.

*Wilmington-Woburn.*

Aug. 2, 1927, contract made with the Lawton Construction Company, of Providence, R. I., for reconstructing about 9,900 feet of State highway on Main Street



in Wilmington and about 3,055 feet of State highway on the same road in Woburn, the surface consisting of bituminous macadam. The proposal amounted to \$71,530.10. Work practically completed. Expenditure during 1927, \$54,874.62.

*Charlton.*

Aug. 2, 1927, contract made with Frank Lanza & Sons of Boston, for constructing about 15,038 feet of State highway on the Southbridge Road, the surface consisting of bituminous macadam. The proposal amounted to \$185,919.30. Work about three-eighths completed. Expenditure during 1927, \$71,775.31.

*West Boylston.*

Aug. 2, 1927, contract made with James J. McHugh, of Leicester, for reconstructing about 2,450 feet of State highway on Worcester Street, the surface consisting of bituminous macadam. The proposal amounted to \$12,235.00. Work completed Sept. 27, 1927. Expenditure during 1927, \$13,249.08.

*Fall River-Somerset.*

Aug. 9, 1927, contract made with James S. Heyson, of Belmont, for cleaning and painting the Brightman Street Bridge. The proposal amounted to \$7,029.00. Work completed Nov. 23, 1927. Expenditure during 1927, \$5,576.00.

*Buckland-Charlemont.*

Aug. 9, 1927, contract made with Maurice M. Devine, of Boston, for cleaning and painting Scott's Bridge over the Deerfield River. The proposal amounted to \$874.00. Work completed Sept. 20, 1927. Expenditure during 1927, \$874.00.

*Huntington.*

Aug. 16, 1927, contract made with the Adams & Ruxton Construction Company, of Springfield, for constructing a bridge and approaches over the Westfield River on about 1,897 feet of State highway, the surface consisting of bituminous concrete on the bridge and gravel on the approaches. The proposal amounted to \$97,336.00. Work about one-third completed. Expenditure during 1927, \$32,093.87.

*Pittsfield.*

Aug. 16, 1927, contract made with the Hampden Contracting Company, of Longmeadow, for constructing about 5,020 feet of State highway on the Richmond Road, the surface consisting of bituminous macadam. The proposal amounted to \$37,827.00. Work about one-third completed. Expenditure during 1927, \$14,432.77.

*Barnstable.*

Sept. 6, 1927, contract made with William A. Jones, of Barnstable, for constructing and reconstructing about 3,213 feet of State highway on the County Road, the surface consisting of bituminous concrete. The proposal amounted to \$24,544.30. Work practically completed. Expenditure during 1927, \$20,249.87.

*Plymouth.*

Sept. 6, 1927, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Conn., for constructing and reconstructing about 26,569 feet of State highway on the Sandwich Road, the surface consisting of bituminous concrete. The proposal amounted to \$127,247.25. Work about one-sixth completed. Expenditure during 1927, \$21,571.23.

*Russell.*

Sept. 6, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 17,378 feet of State highway on the Chester Road, the surface consisting of bituminous macadam. The proposal amounted to \$163,953.75. Work about one-fifth completed. Expenditure during 1927, \$31,229.91.

*Lenox-Pittsfield.*

Sept. 6, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 4,085 feet of State highway on the Pittsfield Road in Lenox and about 8,322 feet of State highway on the same road in Pittsfield, the surface consisting of reinforced cement concrete. The proposal amounted to \$144,258.40. Work just commenced. Expenditure during 1927, \$13,347.61.

*Harwich.*

Sept. 6, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 23,810 feet of State highway on the Dennis Road, the surface consisting of bituminous concrete. The proposal amounted to \$100,377.50. Work about three-fourths completed. Expenditure during 1927, \$77,057.07.

*Westfield.*

Sept. 13, 1927, contract made with Maurice M. Devine, of Boston, for cleaning and painting bridge over Little River. The proposal amounted to \$1,485.00. Work completed Oct. 25, 1927. Expenditure during 1927, \$1,262.25.

*East Longmeadow.*

Sept. 13, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 9,500 feet of State highway on North Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$55,881.85. Work just commenced. Expenditure during 1927, \$5,809.47.

*Clarksburg.*

Sept. 20, 1927, contract made with B. Perini & Sons, Inc., of Ashland, for constructing about 2,100 feet of State highway on the River Road, the surface consisting of bituminous macadam. The proposal amounted to \$19,836.20. Work completed November 30, 1927. Expenditure during 1927, \$17,255.64.

*Buckland.*

Sept. 27, 1927, contract made with the Kelleher Corporation, of Montague, for constructing and reconstructing about 6,574 feet of State highway on Exchange Street, the surface consisting of bituminous macadam. The proposal amounted to \$82,485.95. Work about one-fourth completed. Expenditure during 1927, \$19,677.84.

*Florida-North Adams.*

Oct. 4, 1927, contract made with the Lane Construction Corporation, of Meriden, Conn., for completing the Schnare Construction Corporation's contract for work on the Mohawk Trail, which contract was taken away from said Schnare Construction Corporation on September 15, 1927. Work about one-half completed. Expenditure during 1927, \$39,135.74.

*Bernardston-Gill-Northfield.*

Oct. 5, 1927, contract made with Carlo Bianchi & Company, Inc., of Framingham, for constructing and reconstructing about 11,936 feet of State highway on the Northfield Road in Bernardston, about 1,770 feet of State highway on the same road in Gill and about 8,893 feet of State highway on the same road in Northfield, the surface consisting of bituminous macadam. The proposal amounted to \$215,056.80. Work just commenced. Expenditure during 1927, \$17,092.86.

*Beverly.*

Oct. 11, 1927, contract made with Octavius Menici, of Peabody, for reconstructing about 2,582 feet of State highway on Hale Street, the surface consisting of bituminous macadam. The proposal amounted to \$24,994.50. Work about three-eighths completed. Expenditure during 1927, \$9,080.10.

*Northampton-Williamsburg.*

Oct. 18, 1927, contract made with the Kelleher Corporation, of Montague, for constructing and reconstructing about, 7,183 feet of State highway on Mains Hill Road in Northampton and about 14,756 feet of State highway on the same road in Williamsburg, the surface consisting of bituminous macadam. The proposal amounted to \$158,282.45. Work just commenced. Expenditure during 1927, \$8,398.95.

*Weymouth.*

Oct. 25, 1927, contract made with Powers Brothers, of Brockton, for reconstructing about 22,216 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$131,780.00. Work just commenced. Expenditure during 1927, \$4,292.94.



*East Bridgewater-Whitman.*

Oct. 25, 1927, contract made with Powers Brothers, of Brockton, for reconstructing about 10,794 feet of State highway on Bedford Street in East Bridgewater and about 7,360 feet of State highway on the same road in Whitman, the surface consisting of bituminous macadam. The proposal amounted to \$96,836.60. Work just commenced. Expenditure during 1927, \$7,491.26.

*Framingham-Sudbury-Marlborough.*

Aug. 23, 1927, contract made with Henry Ford, of Dearborn, Mich., for constructing about 1,973 feet of State highway in Marlborough, 227 feet of State highway in Framingham and 6,170 feet of State highway in Sudbury, the surface consisting of two strips of reinforced cement concrete separated by a strip of bituminous macadam with bituminous macadam shoulders. The proposal amounted to \$1.00. Work not commenced.

*Charlemont-Savoy.*

Nov. 15, 1927, contract made with the Kelleher Corporation, of Montague, for repairing about 250 feet of State highway on the Mohawk Trail in Charlemont and about 250 feet of State highway on the same road in Savoy. Work practically completed. Expenditure during 1927, \$4,332.35.

*Westfield.*

Nov. 15, 1927, contract made with the Kelleher Corporation, of Montague, for repairing about 500 feet of State highway on the Russell Road. Work practically completed. Expenditure during 1927, \$7,075.82.

*Dover.*

Nov. 22, 1927, contract made with the Greenough Construction Company, of Acton, for reconstructing about 11,050 feet of State highway on Chestnut and Dedham Streets, the surface consisting of bituminous macadam. The proposal amounted to \$73,576.50. Work not commenced.

*Deerfield.*

Nov. 22, 1927, contract made with Charles E. Horne, of Millbury, for constructing and reconstructing about 17,005 feet of State highway on the Northampton Road, the surface consisting of bituminous macadam. The proposal amounted to \$145,162.00. Work just commenced. Expenditure during 1927, \$1,403.35.

The expenditures for the construction of State highways in various counties during the year were:—

Barnstable, \$121,826.12	Hampden, \$166,416.54
Berkshire, \$677,508.32	Hampshire, \$42,232.45
Bristol, \$431,897.25	Middlesex, \$8,765.02
Dukes, \$12,059.64	Plymouth, \$207,094.42
Franklin, \$56,085.03	Worcester, \$110,745.85
	Total, \$1,834,630.64

Details of the foregoing expenditures follow:—

*Barnstable County.*—Barnstable, \$14,305.35; Eastham, \$52,567.91; Harwich, \$3,731.26; Mashpee, \$51,221.60.

*Berkshire County.*—Becket, \$42,906.56; Dalton, \$84.89; Florida, \$43,637.91; Hinsdale, \$45,873.22; Lee, \$1,521.82; North Adams, \$10,286.12; Otis, \$173,167.34; Pittsfield, \$17,449.95; Sandisfield, \$64,883.69; Williamstown, \$277,696.82.

*Bristol County.*—Dartmouth, \$37,037.27; Rehoboth, \$12,066.59; Seekonk, \$31,070.56; Somerset, \$22,095.43; Swansea, \$99,854.12; Westport, \$229,773.28.

*Dukes County.*—Gay Head, \$12,059.64.

*Franklin County.*—Bernardston, \$6,800.42; Buckland, \$24,156.92; Conway, \$8,736.33; Deerfield, \$1,701.59; Gill, \$75.80; Northfield, \$14,613.97.

*Hampden County.*—Monson, \$107,098.95; Tolland, \$477.36; West Springfield, \$58,840.23.

*Hampshire County.*—Huntington, \$39,217.99; Williamsburg, \$3,014.46.

*Middlesex County.*—Framingham, \$0.34; Lexington, \$6,921.59; Littleton,

\$318.43; Marlborough, \$32.37; Sudbury, \$18.65; Westford, \$1,438.74; Wilmington, \$28.29; Woburn, \$6.61.

*Plymouth County.* — Marshfield, \$181,272.04; Plymouth, \$25,822.38.

*Worcester County.* — Charlton, \$87,719.77; East Brookfield, \$10,690.94; Westminster, \$5,904.14; Winchendon, \$6,431.00.

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS.

(Section 13, chapter 81, General Laws, and chapter 138, Acts of 1927.)

The expenditures during the year in various counties were: —

Barnstable, \$507,363.14	Hampshire, \$404,708.91
Berkshire, \$682,200.92	Middlesex, \$572,185.31
Bristol, \$908,092.89	Norfolk, \$746,058.47
Dukes, \$5,854.17	Plymouth, \$425,452.43
Essex, \$588,703.50	Suffolk, \$16,804.59
Franklin, \$136,751.66	Worcester, \$1,018,752.77
Hampden, \$449,654.62	Total, \$6,462,583.38

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$28,253.88; Bourne, \$8,546.61; Brewster, \$2,811.09; Chatham, \$118,979.33; Dennis, \$2,083.00; Eastham, \$3,300.91; Falmouth, \$132,211.22; Harwich, \$93,468.99; Mashpee, \$2,850.66; Orleans, \$43,678.95; Provincetown, \$4,040.48; Sandwich, \$58,906.54; Truro, \$3,054.81; Wellfleet, \$1,523.01; Yarmouth, \$3,653.66.

*Berkshire County.* — Adams, \$2,086.54; Becket, \$34,727.66; Cheshire, \$202,713.98; Clarksburg, \$24,894.11; Dalton, \$4,847.61; Egremont, \$4,182.68; Florida, \$59,721.05; Great Barrington, \$9,826.44; Hancock, \$2,317.33; Hinsdale, \$2,508.58; Lanesboro, \$8,896.84; Lee, \$20,258.54; Lenox, \$30,154.62; New Ashford, \$3,304.32; New Marlborough, \$315.97; North Adams, \$23,178.40; Otis, \$3,455.14; Pittsfield, \$20,155.08; Richmond, \$138,831.33; Sandisfield, \$1,167.44; Savoy, \$5,875.58; Sheffield, \$7,249.16; Stockbridge, \$42,815.24; Washington, \$1,642.96; Williamstown, \$20,312.27; Windsor, \$6,762.05.

*Bristol County.* — Acushnet, \$4,878.80; Attleboro, \$177,216.73; Berkley, \$597.43; Dartmouth, \$35,189.86; Dighton, \$5,171.82; Easton, \$6,666.80; Fairhaven, \$2,366.07; Fall River, \$33.24; Freetown, \$3,440.67; Mansfield, \$3,904.11; Norton, \$7,522.82; North Attleborough, \$27,791.80; Raynham, \$199,724.09; Rehoboth, \$8,122.94; Seekonk, \$156,719.90; Somerset, \$16,381.26; Swansea, \$119,873.93; Taunton, \$104,063.34; Westport, \$28,427.28.

*Dukes County.* — Chilmark, \$1,517.44; Edgartown, \$1,375.80; Gay Head, \$572.19; Oak Bluffs, \$423.12; Tisbury, \$620.12; West Tisbury, \$1,345.50.

*Essex County.* — Amesbury, \$35,153.77; Andover, \$4,967.40; Beverly, \$31,126.85; Danvers, \$3,853.58; Essex, \$5,828.24; Gloucester, \$23,869.95; Groveland, \$1,906.66; Hamilton, \$3,678.89; Haverhill, \$22,154.77; Ipswich, \$5,530.56; Lawrence, \$1,442.29; Lynn, \$8,886.83; Lynnfield, \$2,108.92; Merrimac, \$16,630.70; Methuen, \$3,670.53; Middleton, \$1,429.79; Newbury, \$12,704.27; Newburyport, \$58,635.38; North Andover, \$133,212.68; Peabody, \$3,189.22; Rockport, \$46,891.25; Rowley, \$5,982.62; Salem, \$6,409.56; Salisbury, \$122,753.34; Saugus, \$11,389.94; Swampscott, \$2,280.84; Topsfield, \$5,628.63; Wenham, \$2,415.55; West Newbury, \$4,970.49.

*Franklin County.* — Ashfield, \$1,663.99; Bernardston, \$40,606.94; Buckland, \$3,072.89; Charlemont, \$19,467.72; Colrain, \$1,019.62; Conway, \$3,264.70; Deerfield, \$16,313.15; Erving, \$11,173.99; Gill, \$477.24; Greenfield, \$15,864.45; Montague, \$3,713.51; Northfield, \$5,599.57; Orange, \$5,019.58; Shelburne, \$3,456.04; Sunderland, \$2,238.79; Whately, \$3,799.48.

*Hampden County.* — Agawam, \$3,627.75; Blandford, \$9,434.59; Brimfield, \$2,286.36; Chester, \$5,243.00; Chicopee, \$8,761.44; East Longmeadow, \$7,768.58; Holyoke, \$3,643.21; Monson, \$37,515.30; Palmer, \$8,991.48; Russell, \$45,712.80; Southwick, \$3,327.93; Springfield, \$84.04; Tolland, \$895.35; Wales, \$2,539.83; West Springfield, \$26,046.56; Westfield, \$206,906.97; Wilbraham, \$76,869.43.

*Hampshire County.* — Amherst, \$6,935.45; Belchertown, \$4,045.47; Cummington, \$11,466.92; Easthampton, \$1,793.31; Goshen, \$39,221.74; Granby, \$124,516.90; Hadley, \$6,704.68; Hatfield, \$2,477.57; Huntington, \$10,135.97; North-



ampton, \$14,629.96; Southampton, \$3,509.48; South Hadley, \$117,574.77; Ware, \$8,895.67; Williamsburg, \$52,801.02.

*Middlesex County.* — Acton, \$5,295.24; Arlington, \$937.12; Ashby, \$4,431.21; Ashland, \$1,121.85; Ayer, \$59,596.76; Bedford, \$538.56; Billerica, \$25,002.80; Boxborough, \$2,498.11; Burlington, \$2,232.15; Chelmsford, \$63,368.97; Concord, \$8,538.23; Dracut, \$4,144.96; Framingham, \$4,044.24; Groton, \$2,052.28; Holliston, \$28,456.20; Hudson, \$1,555.92; Lexington, \$3,620.91; Lincoln, \$1,228.29; Littleton, \$3,907.15; Lowell, \$1,723.18; Malden, \$33.93; Marlborough, \$13,911.26; Medford, \$52,870.63; Melrose, \$582.47; Natick, \$6,737.97; Newton, \$881.43; North Reading, \$1,600.47; Pepperell, \$3,494.20; Reading, \$4,789.79; Shirley, \$38,853.45; Somerville, \$57,926.32; Stoneham, \$2,079.97; Sudbury, \$4,405.35; Tewksbury, \$3,242.07; Townsend, \$5,276.78; Tyngsborough, \$2,224.00; Waltham, \$972.58; Watertown, \$1,042.37; Wayland, \$5,319.28; Westford, \$40,635.53; Weston, \$8,264.40; Wilmington, \$54,323.15; Winchester, \$22,025.31; Woburn, \$16,398.47.

*Norfolk County.* — Avon, \$6,992.61; Bellingham, \$34,700.18; Braintree, \$68,361.72; Canton, \$8,470.66; Cohasset, \$5,609.94; Dedham, \$4,015.14; Dover, \$707.56; Foxborough, \$2,740.16; Franklin, \$55,101.04; Holbrook, \$6,231.95; Milton, \$63,691.22; Needham, \$56,264.04; Norfolk, \$385.35; Norwood, \$3,200.51; Plainville, \$2,981.19; Quincy, \$95,900.47; Randolph, \$4,565.25; Sharon, \$212.20; Stoughton, \$6,559.92; Walpole, \$2,730.81; Wellesley, \$673.11; Westwood, \$764.59; Weymouth, \$137,502.04; Wrentham, \$177,696.81.

*Plymouth County.* — Abington, \$4,650.92. Bridgewater, \$13,300.79; Brockton, \$102,475.68; Duxbury, \$64,698.65; East Bridgewater, \$9,504.33; Hanover, \$2,787.12; Hingham, \$50,688.70; Kingston, \$68,713.65; Lakeville, \$8,968.86; Marion, \$3,567.71; Marshfield, \$8,411.31; Mattapoisett, \$1,857.45; Middleborough, \$12,787.26; Norwell, \$1,782.23; Pembroke, \$5,932.21; Plymouth, \$5,996.35; Rochester, \$2,761.09; Rockland, \$907.80; Scituate, \$4,666.73; Wareham, \$14,741.77; West Bridgewater, \$29,077.73; Whitman, \$7,174.09.

*Suffolk County.* — Boston, \$3,988.72; Chelsea, \$3,903.09; Revere, \$8,912.78.

*Worcester County.* — Ashburnham, \$81,127.57; Athol, \$28,602.52; Auburn, \$4,320.69; Barre, \$6,309.74; Blackstone, \$5,848.25; Brookfield, \$483.62; Charlton, \$5,969.24; Clinton, \$20.55; Douglas, \$2,889.35; Dudley, \$4,625.28; East Brookfield, \$1,180.56; Fitchburg, \$48,432.18; Gardner, \$6,558.10; Grafton, \$9,441.67; Hardwick, \$565.25; Harvard, \$2,715.42; Holden, \$136,823.24; Hopedale, \$386.64; Lancaster, \$1,612.92; Leicester, \$8,127.34; Leominster, \$83,445.18; Lunenburg, \$72,893.81; Mendon, \$3,746.71; Milford, \$4,043.76; Millbury, \$2,733.50; Millville, \$5,116.66; New Braintree, \$170.46; North Brookfield, \$547.46; Northborough, \$6,521.91; Northbridge, \$1,418.66; Oakham, \$1,068.10; Oxford, \$4,363.93; Paxton, \$27,400.90; Petersham, \$4,365.15; Phillipston, \$2,580.29; Princeton, \$1,759.60; Rutland, \$8,966.02; Shrewsbury, \$13,219.88; Southborough, \$2,721.11; Southbridge, \$475.15; Spencer, \$2,461.60; Sterling, \$13,216.86; Sturbridge, \$5,059.92; Sutton, \$6,517.75; Templeton, \$7,603.04; Upton, \$5,198.35; Uxbridge, \$4,963.38; Warren, \$5,495.15; Webster, \$1,292.86; West Boylston, \$23,069.18; West Brookfield, \$2,229.40; Westborough, \$2,293.40; Westminster, \$112,591.98; Winchendon, \$108,221.49; Worcester, \$114,940.04.

#### HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS.

The following contract was entered into during the year for the construction of town ways in the Five Western Counties, in accordance with the provisions of chapter 221, Acts of 1915, as amended by chapter 572, Acts of 1920: —

Granville-Southwick. — July 5, 1927, contract made with the Kelleher Corporation, of Montague, for widening about 450 feet of highway on the Gorge Road in Granville, and about 150 feet of highway on the same road in Southwick. The proposal amounted to \$7,480.50. Work completed September 27, 1927. Expenditure during 1927, \$8,080.52.

The total expenditures during the year for the construction of these highways in the Five Western Counties amounted to \$92,351.06, details of which follow: —

*Route No. 6.* — Peru-Worthington, \$70,706.31.

*Route No. 9.* — Granville-Southwick, \$21,643.31.

*Route No. 14.* — Orange-Warwick, \$1.44.

**SOUTHERN ROUTE TO ACCOMMODATE TRAFFIC BETWEEN BOSTON AND THE TERRITORY TO THE SOUTH AND EAST THEREOF.**

Under the provisions of chapters 330 and 344, Acts of 1925, as amended by chapter 369, Acts of 1926, the Division of Highways was authorized to lay out and construct convenient and adequate ways for motor vehicles and other traffic in the cities of Boston and Quincy. Upon the completion of this route (Southern Artery) all parts of said ways shall become public streets or ways of the respective cities within which they lie and be kept in good condition and repair by them.

A contract for the construction of a portion of the Southern Artery was entered into during the year as follows: —

Quincy. — December 28, 1926, contract made with Paul Caputo, of Boston, for constructing about 10,484 feet of highway, the surface consisting of bituminous macadam. The proposal amounted to \$226,465.70. Work completed November 29, 1927. Expenditure during 1927, \$225,748.25.

**FEDERAL AID IN CONSTRUCTING HIGHWAYS.**

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the States in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920–1926, inc.

The following Federal aid allotments have thus far been made to Massachusetts: —

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
<b>Total</b>	<b>\$11,197,826 00</b>

The total amount received by Massachusetts from 1916 to Nov. 30, 1927, is \$7,751,857.71.

Projects to the number of 24 have been prepared in addition to those shown in the report of the Department of Public Works, Division of Highways, for 1926. The total mileage included in the various Federal aid road projects in this State from the commencement of work of this character to Nov. 30, 1927, inclusive, is 533.999. The mileage in various counties is: —

Barnstable, 44.781 miles  
 Berkshire, 73.003 miles  
 Bristol, 61.084 miles  
 Dukes, 3.117 miles  
 Essex, 54.612 miles  
 Franklin, 20.120 miles

Hampden, 33.514 miles  
 Hampshire, 30.169 miles  
 Middlesex, 49.558 miles  
 Norfolk, 32.309 miles  
 Plymouth, 52.992 miles  
 Worcester, 78.740 miles



STATEMENT OF FEDERAL AID ROAD PROJECTS<sup>1</sup> TO NOV. 30, 1927.

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
1	Acushnet-Fairhaven . . . . .	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover . . . . .	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus . . . . .	1.162	11,620 00	11,620 00	Work completed.
4	Danvers . . . . .	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton . . . . .	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich . . . . .	1.818	10,678 02	10,678 02	Work completed.
7	Cummington . . . . .	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham . . . . .	7.016	90,074 51	90,074 51	Work completed.
9	Saugus . . . . .	3.122	65,472 27	65,472 27	Work completed.
10	Braintree . . . . .	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton . . . . .	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich . . . . .	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton . . . . .	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable . . . . .	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham . . . . .	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody . . . . .	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg . . . . .	2.797	55,940 00	55,940 00	Work completed.
19	Taunton . . . . .	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury . . . . .	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock . . . . .	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston . . . . .	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington . . . . .	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk . . . . .	2.756	19,527 75	19,527 75	Work completed.
25	Billerica . . . . .	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1 . . . . .	5.134	102,680 00	102,680 00	Work completed.
	Section 2 . . . . .	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham . . . . .	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A . . . . .	0.990	19,780 00	19,780 00	Work completed.
	Section B . . . . .	2.690	53,800 00	53,800 00	Work completed.
29	Ware . . . . .	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield . . . . .	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody . . . . .	1.107	22,140 00	22,140 00	Work completed.
32	Huntington . . . . .	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A . . . . .	2.182	43,640 00	43,640 00	Work completed.
	Section B . . . . .	1.624	25,847 25	25,847 25	Work completed.
34	Dudley . . . . .	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen . . . . .	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A . . . . .	10.690	91,347 85	91,347 85	Work completed.
	Section B . . . . .	6.548	75,935 60	75,935 60	Work completed.
	Section C . . . . .	8.043	86,130 51	86,130 51	Work completed.
37	Egremont . . . . .	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers . . . . .	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanes-				
	borough:				
	Section A . . . . .	0.020	9,123 64	9,123 64	Work completed.
	Section B . . . . .	3.323	65,980 00	65,980 00	Work completed.
40	East Brookfield . . . . .	1.011	20,220 00	20,220 00	Work completed.
41	Ashby . . . . .	1.250	22,141 03	22,141 03	Work completed.
42	Washington . . . . .	2.291	45,820 00	45,820 00	Work completed.
43	Leicester . . . . .	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A . . . . .	1.494	29,880 00	29,880 00	Work completed.
	Section B . . . . .	1.479	50,183 37	50,183 37	Work completed.
	Section C . . . . .	3.780	82,915 42	82,915 42	Work completed.
45	Palmer:				
	Sections A and C . . . . .	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A . . . . .	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	39,180 00	39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brook-				
	field:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	53,820 00	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.

<sup>1</sup> All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1927. — *Continued.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	\$60,180 00	\$60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	89,780 00	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.156	13,095 66	13,095 66	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke . . . . .	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	5,429 50	5,429 50	Work completed.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield . . . . .	1.227	25,324 95	25,324 95	Work completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham . . . . .	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	122,931 25	Work completed.
95	Westfield . . . . .	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham . . . . .	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield . . . . .	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester . . . . .	1.191	19,353 75	19,353 75	Work completed.
100	Rutland . . . . .	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale . . . . .	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale . . . . .	0.858	26,602 48		Work completed.
102A	Plainville-Wrentham . . . . .	3.254	48,810 00	48,810 00	Work completed.
103	Adams . . . . .	0.568	9,230 00	9,230 00	Work completed.
104	Milton . . . . .	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth . . . . .	1.438	28,760 00	28,760 00	Work completed.
106	Bourne . . . . .	0.522	35,002 00	35,002 00	Work completed.
107	Southampton . . . . .	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown . . . . .	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield . . . . .	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater . . . . .	0.109	24,580 87	24,580 87	Work completed.
111	Braintree . . . . .	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough . . . . .	3.278	65,560 00	65,560 00	Work completed.
113	Swansea . . . . .	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset . . . . .	3.503	64,439 74	64,439 74	Work completed.
114	Lenox . . . . .	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth . . . . .	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole . . . . .	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford . . . . .	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro . . . . .	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield . . . . .	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield . . . . .	0.251	3,765 00	3,765 00	Work completed.
119A	Essex . . . . .	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville . . . . .	4.789	71,835 00	71,835 00	Work completed.
120B	Berkley . . . . .	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkley . . . . .	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton . . . . .	0.862	12,930 00	12,930 00	Work completed.
121A	Abington . . . . .	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater . . . . .	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth . . . . .	2.720	40,800 00		Work underway.
121D	East Bridgewater-Whitman . . . . .	2.000	30,000 00		Work underway.
122A	Barnstable . . . . .	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee . . . . .	2.482	37,230 00		Work completed.
123A	Southampton . . . . .	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland . . . . .	0.189	30,296 68	30,296 68	Work completed.
125A	Wareham . . . . .	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham . . . . .	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke . . . . .	4.136	62,040 00	62,040 00	Work completed.
128A	Hinsdale . . . . .	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale . . . . .	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset . . . . .	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset . . . . .	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford . . . . .	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham . . . . .	0.530	7,950 00	7,950 00	Work completed.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1927. — *Concluded.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
131B	Wilbraham . . . . .	1.012	\$15,180 00		Work completed.
132A	Duxbury-Kingston . . . . .	2.123	31,845 00		Work completed.
133A	North Andover . . . . .	0.615	9,225 00	\$9,225 00	Work completed.
133B	North Andover . . . . .	0.771	11,565 00	11,565 00	Work completed.
134A	Barre . . . . .	1.217	18,255 00	18,255 00	Work completed.
135A	Russell . . . . .	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell . . . . .	3.607	54,075 00		Work completed.
135C	Russell . . . . .	3.291	54,052 37		Work underway.
136A	Agawam . . . . .	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam . . . . .	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam . . . . .	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield . . . . .	0.170	22,710 05	22,710 05	Work completed.
138A	Chester . . . . .	0.097	10,818 36	10,818 36	Work completed.
139A	Brimfield . . . . .	0.103	6,075 05	6,075 05	Work completed.
140A	Lenox-Lee . . . . .	3.519	52,785 00	43,399 66	Work completed.
140B	Lee . . . . .	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg . . . . .	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg . . . . .	5.042	95,783 17	60,188 08	Work completed.
141C	Northampton-Williamsburg . . . . .	4.146	62,190 00		Work underway.
142A	Fitchburg-Westminster . . . . .	3.960	69,171 34	69,171 34	Work completed.
143	Fairhaven-Mattapoisett . . . . .	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton . . . . .	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston . . . . .	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton . . . . .	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester . . . . .	4.930	73,950 00		Work completed.
147A	Lenox-Pittsfield . . . . .	2.349	35,235 00		Work underway.
148A	Raynham . . . . .	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton . . . . .	2.861	42,915 00		Work completed.
149A	Middleborough . . . . .	5.586	83,790 00	83,790 00	Work completed.
150A	Littleton-Westford . . . . .	1.985	29,775 00	29,775 00	Work completed.
150B	Westford . . . . .	2.660	39,900 00	39,900 00	Work completed.
151A					
& B	Swansea-Somerset . . . . .	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth . . . . .	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth . . . . .	2.858	42,870 00	42,870 00	Work completed.
152C	Westport . . . . .	4.634	69,510 00		Work underway.
153A	Southampton-Easthampton . . . . .	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge . . . . .	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield . . . . .	0.549	8,235 00		Work underway.
156A	Orange . . . . .	1.058	15,870 00	15,870 00	Work completed.
157A	Sandisfield-Tolland . . . . .	0.644	34,803 50	34,803 50	Work completed.
157B	Sandisfield . . . . .	0.473	34,116 12		Work underway.
158A	Dalton . . . . .	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea . . . . .	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk . . . . .	2.251	33,765 00		Work completed.
159C	Swansea . . . . .	2.767	41,505 00		Work completed.
160A	Lenox-Lee-Stockbridge . . . . .	5.453	81,795 00		Work completed.
161A	Brockton-W. Bridgewater . . . . .	3.823	57,345 00	57,345 00	Work completed.
162A	Holliston . . . . .	3.315	49,725 00	49,725 00	Work completed.
163A	Amherst . . . . .	0.052	3,787 09	3,787 09	Work completed.
164A	Westminster-Winchendon . . . . .	0.750	41,118 39	26,555 45	Work completed.
164B	Westminster-Ashburnham . . . . .	3.607	54,105 00		Work underway.
165A	Winchendon . . . . .	2.460	36,900 00		Work completed.
166	Becket-Otis . . . . .	6.043	99,570 72		Work underway.
168A	Deerfield . . . . .	1.856	27,840 00		Work underway.
169A	Merrimac-Amesbury . . . . .	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford . . . . .	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling . . . . .	2.718	40,770 00		Work completed.
173A	Cheshire . . . . .	4.377	75,790 38	37,521 63	Work completed.
174A	Marshfield . . . . .	4.533	67,995 00		Work underway.
175A	Sandwich . . . . .	0.217	23,396 50		Work completed.
175B	Orleans . . . . .	1.904	28,471 57		Work underway.
176A	Plymouth . . . . .	5.032	75,480 00		Work underway.
177A	Chatham . . . . .	3.964	57,080 10		Work completed.
177B	Orleans . . . . .	1.802	27,030 00		Work underway.
178A	Chelmsford . . . . .	1.262	18,930 00		Work completed.
179A	Falmouth . . . . .	3.394	50,910 00		Work completed.
180A	Franklin-Wrentham . . . . .	3.125	46,875 00		Work underway.
181A	Florida-North Adams . . . . .	2.818	42,270 00		Work underway.
182A	Lunenburg . . . . .	1.312	19,680 00		Work underway.
183A	Amesbury-Salisbury . . . . .	1.922	28,830 00		Work completed.
184A	Charlton . . . . .	2.848	42,720 00		Work underway.
185A	Buckland . . . . .	1.245	18,675 00		Work underway.
Total . . . . .		533 999	\$9,430,199 69	\$7,751,857 71	

## BRIDGES.

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:—

## BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR.

*Cities and Towns, Locality and Character of Structure.*

- Bolton — Seven Bridge Road over Still River; one 30-foot span, reinforced concrete beam.
- Dover-Needham — Charles River Road and Dover Street, over Charles River; two 19.5-foot spans and three 20-foot spans, reinforced concrete pile trestle.
- East Bridgewater — Washington Street over Satucket River; one 25-foot span, reinforced concrete beam.
- Fitchburg — Lunenburg Road over Baker Brook; one 25-foot span, reinforced concrete beam.
- Granby — Belchertown Road over Stony Brook; one 24-foot span, reinforced concrete beam.
- Granby — North Street over Bachelor Brook; one 20-foot span, reinforced concrete beam.
- Huntington — Worthington Road over Westfield River; three 85-foot spans, deck steel truss.
- Lancaster — Seven Bridge Road over Nashua River; two 45-foot spans, reinforced concrete beam.
- Lenox — Pittsfield Road over Yokun River; one 8-foot span, reinforced concrete box culvert.
- Marlborough — Boston Post Road relocation over brook; one 15-foot span, reinforced concrete slab.
- Monson — Tenneyville Road over Chicopee Brook; one 40-foot span reinforced concrete beam.
- Otis — Sandisfield Road over Farmington River; one 40-foot span, reinforced concrete beam.
- Richmond — State Highway over Brook; one 12-foot span, reinforced concrete slab.
- Sandisfield — New Boston Road over Farmington River; one 136-foot span, through steel truss, concrete abutments.
- Seekonk — Pond Street over Ten Mile River; one 31.5-foot span, reinforced concrete beam.
- Spencer — North Spencer Road over Seven Mile River; one 14-foot span, reinforced concrete slab.
- Sudbury — Boston Post Road relocation over driveway; 15-foot by 15-foot reinforced concrete underpass.
- West Springfield — Westfield Road over Black Brook; 9-foot by 10-foot reinforced concrete box culvert.
- West Stockbridge — Great Barrington Road over Williams River; one 42.5-foot span, reinforced concrete beam.
- West Stockbridge — Shaker Mill Bridge over Williams River; one 44-foot span, reinforced concrete beam.
- Weymouth — State Highway over Mill River; one 16-foot span, reinforced concrete slab.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES  
COMPLETED IN 1927.*Cities and Towns, Locality and Character of Work.*

- Ayer-Shirley — State Highway over Nashua River; extension of 2 span reinforced concrete beam bridge.
- Bernardston — Northfield Road over Dry Brook; extension of reinforced concrete slab.
- Buckland-Charlemont — Scott's Bridge over Deerfield River; cleaning and painting steel.
- Essex — State Highway over Essex River; repairs to reinforced concrete arch.
- Fitchburg — Lunenburg Road over Baker Brook; extension of reinforced concrete slab.
- Florida — Mohawk Trail over Branch Cold River; extension of reinforced concrete beam.
- Lunenburg — Fitchburg Road over Pearl Hill Brook; extension of reinforced concrete slab.



Newbury — Shore Road over Parker River; repairs to pier foundations.

Pittsfield — Richmond Road over Hall Brook; reinforced concrete beam extension to I-beam concrete slab.

Pittsfield — Richmond Road over Shaker Brook; reinforced concrete beam extension to I-beam concrete slab.

Rochester — Mary's Pond Road over outlet to Leonard's Pond; extension of reinforced concrete arch culvert.

Russell — Westfield Road over Potash Brook; reinforced concrete beam extension to stone arch.

Taunton — Providence Road over Three Mile River; new curb and road surface.

Westfield — State Highway (Springfield Road) over Little River; cleaning and painting 2 span steel truss.

Wrentham — State Highway over Brook; repairs to bridge (mopping floor.)

#### CONTEMPLATED BRIDGES AND STRUCTURES.

##### *Plans, Studies or Estimates made.*

##### *Cities and Towns, Locality and Character of Structure.*

Amesbury — Mary Street Extension over Powow River; reinforced concrete beam.

Andover — North Main Street over Boston and Maine Railroad; steel bridge.

Andover — Main Street over Shawsheen River; extension of stone arch.

Becket — over Westfield River; extension of reinforced concrete beam bridge 20-foot span.

Becket — over Westfield River; extension of reinforced concrete arch, 14-foot span.

Bernardston — over Boston and Maine Railroad, Connecticut Division; three spans, reinforced concrete beam.

Bourne — Woods Hole Road over New York, New Haven and Hartford Railroad; study for overhead bridge on new location to abolish underpass.

Bridgewater-Middleboro — Bedford Street over Taunton River; two 38-foot spans and one 45-foot span, reinforced concrete beam.

Charlton — Oxford Road over Cady Brook; one 11.5-foot span, reinforced concrete beam.

Charlton — Oxford Road over Little River; one 20-foot span, reinforced concrete beam.

Charlton — Sturbridge Road over Globe Brook; one 11-foot span, reinforced concrete slab.

Dedham — Washington Street over New York, New Haven and Hartford Railroad; one 62.17-foot span, reinforced concrete girder, beam and slab.

Dedham — Washington Street over Mother Brook; one 19.25-foot span, reinforced concrete beam extension.

Dudley — over Tuft's Branch Quinebaug River; one 11-foot span, reinforced concrete slab.

East Bridgewater — Bedford Street over Forge Pond; design for sidewalk.

Easthampton — River Road over Manhan River; two 60-foot spans, reinforced concrete beam.

Falmouth — State Highway over Childs River; one 26.5-foot span, reinforced concrete beam.

Florida-Savoy — over Cold River; reinforced concrete arch extension.

Franklin — Bellingham Road over Mine Brook; extension of reinforced concrete slab.

Hinsdale — Washington Road over Boston and Albany Railroad; one 58.5-foot span, steel bridge.

Hudson — Cox Street over Assabet River; two 27-foot spans, reinforced concrete beam.

Marion-Wareham — State Highway over Weweantic River; reinforced concrete beam.

Newbury — Shore Road over Parker River; five 60-foot spans, reinforced concrete beam.

Peru — Hinsdale-Middlefield Road over Branch Housatonic River; 18.62-foot span, reinforced concrete slab.

- Revere — Squire Road Extension, Boston and Maine Railroad and Boston, Revere Beach and Lynn Railroad; two bridges.
- Rochester — Mary's Pond Road over outlet to Leonard's Pond; two 7-foot spans, reinforced concrete slab extension.
- Rochester — Mary's Pond Road over outlet to Leonard's Pond; four spans, reinforced concrete slab extension.
- Russell — Blandford Stage Road over Freeland Brook; reinforced concrete slab extension.
- Saugus — Newburyport Turnpike over Saugus River; 22-foot span, extension of reinforced concrete box; culvert.
- South Hadley — Notch Road over Batchelder Brook; 29.5-foot span, reinforced concrete beam extension.
- Stockbridge — Tuckerman Bridge over Housatonic River; 96-foot span, steel bridge.
- Sturbridge — over Crystal Pond, Hobb's Brook; 8-foot span, reinforced concrete slab.
- Sturbridge — over Quinebaug River; 50-foot span, reinforced concrete beam.
- Templeton — Cut-off over Boston and Albany Railroad; study.
- Templeton — North Main Street over Otter River; 31-foot span, I-beam, wood floor.
- Townsend — State Highway over Squannacook River; reconstruction of floor system.
- Williamstown — over Hoosic River; proposed repairs to 115-foot span steel bridge.
- Wilmington — State Highway over Boston and Maine Railroad. Southern Division; study for proposed bridge.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns.*

*Towns, Locality and Character of Work.*

- Ashland — Homer Avenue over Cold Spring Brook; examination and estimate for widening and strengthening.
- Charlton — Saundersdale Road over Vinton Brook; advice on reconstruction.
- Cheshire — Sand Hill Road over Dry Brook; estimate for repairs and partial rebuilding.
- Chesterfield — Worthington Road over West Branch Westfield River; estimate for strengthening.
- Clarksburg — Cross Road from River Road to Middle Road over Hudson Brook; plans and estimate for reinforced concrete beam.
- Clarksburg — Hall's Bridge over West Branch Hoosic River; examination in regard to flood damage.
- Clarksburg — Bridge 100 feet west of Hall's Bridge over Hoosic River; examination in regard to flood damage.
- Clarksburg — Aldrich Bridge over Hoosic River; examination in regard to flood damage.
- Dartmouth — Apponaganset Bridge over Apponaganset River; estimates for new bridge or repairs.
- Dover-Sherborn — Farm Street over Charles River; examination and report on strength and estimate for new bridge.
- Great Barrington — Egremont Road over Green River; examination and report on strength.
- Great Barrington — Bridge Street over Housatonic River; examination and report on strength.
- Greenfield-Deerfield — Makepeace Bridge over Deerfield River; examination.
- Norton — Cross Street over dam spillway, Rumford River; plans and estimate for reinforced concrete slab bridge.
- Rochester — New Bedford Road over Mattapoissett River; advice on reconstruction.
- Saugus — Central Street over Saugus River; inspection, report and estimate for a reinforced concrete bridge.
- Saugus — Elm Street over Saugus River; inspection, report and estimate for a reinforced concrete bridge.
- Saugus — Ballard Street over Tide Water Creek to Saugus River; inspection, report and estimate for a reinforced concrete bridge.



- Saugus — Bristow Street over Tide Water Creek to Saugus River; inspection, and report on wooden culvert.
- Saugus — Highland Avenue over Silver Brook; inspection, report and estimate for a reinforced concrete bridge.
- Southwick — Loomis Street over Munn Brook; advice on repairs due to flood damage.
- Tyngsborough — Lowell-Nashua Road over Merrimack River and Boston and Maine Railroad; examination for Middlesex County.
- Windsor — Polly's Bridge over Baldwin Brook; examination and estimate for reconstruction.
- Windsor — Savoy Road at Junction of road to Windsor Jams; examination and estimate for reconstruction.

*Examinations, Reports, Estimates, etc., by direction of the Department.*

*Cities and Towns, Locality and Subject.*

- Andover — Haverhill Street, underpass Boston and Maine Railroad; examination.
- Buckland — Railroad bridge adjacent to new cut-off; advice in respect to grade of road in reference to Boston and Maine bridge.
- Chicopee-West Springfield — Over Connecticut River; examination of through steel truss, and report.
- Dalton — Center Bridge over Housatonic River; examination and report on strength.
- Deerfield — Estimate for bridge separating grade of State Highway from grade of intersecting road.
- Dudley — Perry Street over Canal; examination as to strength for carrying busses.
- Dudley — Perry Street over French River; examination as to strength for carrying busses.
- Duxbury — Powder Point Bridge over Duxbury Bay; inspection as to fire hazard.
- East Longmeadow — Bridge over New York, New Haven and Hartford Railroad; examination and report on strength.
- Fairhaven-New Bedford — Over Acushnet River; examination and report as to condition, estimate for repairs.
- Franklin — Bellingham Road over Midland Division, New York, New Haven and Hartford Railroad; estimate on widening and reconstruction.
- Marshfield — Examination of Scituate-Marshfield State Highway Bridge over North River, New York, New Haven and Hartford Railroad bridge, and Little Bridge on State Highway over North River, in regard to navigation clearances.
- Montague-Erving — Studies for relocation of State Highway and bridges.
- Northampton — Goshen-Cummington Road over Beaver Brook; examination.
- Palmer — State Highway under Boston and Albany Railroad; examination and estimate for reconstruction of two underpasses.
- Pittsfield — Dalton Road over Boston and Albany Railroad.
- Salisbury — State Highway over Boston and Maine Railroad; study of grade and head room.
- Sandisfield — New Boston Road over Farmington River; estimate on repairs.
- Stoughton — Washington Street over New York, New Haven and Hartford Railroad; examination and estimate for reconstruction.
- Uxbridge — Mendon Street over outlets to Mill Pond; examination of three bridges in regard to carrying busses of New York, New Haven and Hartford Railroad.
- West Springfield — Westerly underpass, Boston and Albany Railroad; examination in connection with proposed abandonment.
- West Springfield-Chicopee — Over Connecticut River; examination and report.
- Williamsburg — Goshen-Cummington Road over Mill River; examination.
- Williamstown — State Highway, Pittsfield-Williamstown, over Green River; examination and estimate for 42-foot span reinforced concrete beam.
- Woburn — Salem Street over Boston and Maine Railroad, main line, Southern Division; examination in regard to reconstruction by Boston and Maine Railroad.

*Examinations, Reports, Estimates, etc., at Request of Other Departments.*

*Cities and Towns, Locality and Character of Work.*

Cambridge — Circumferential highway. Estimates made for two proposed bridges to abolish grade crossings.

Chester — Examination of three bridges, on Middlefield Road over Westfield River, on Depot Street and on Maple Street, in regard to flood damage, at request of Department of Public Safety:

Easthampton — Cottage Street over spillway. Examination for strength at request of Department of Public Utilities.

Medford — Estimate for bridges over Mystic River and Southern Division of Boston and Maine Railroad, in connection with chapter 40, Resolves of 1927.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by chapter 313, Acts of 1923.*

*Cities and Towns, Location, Character of Work and Date of Approval.*

Auburn — Rochdale Street over Stoneville Mill Flume; 14-foot span, reinforced concrete slab; approved August 30, 1927.

Berlin — Northborough Road over North Brook; 18-foot span, reinforced concrete slab; approved September 13, 1927.

Brockton — Elmwood Avenue over Salisbury Brook; 15-foot span, reinforced concrete slab; approved August 9, 1927.

Concord — Pine Street over Assabet River; four spans, total length 56 feet, timber bridge; approved May 10, 1927.

Conway — Shelburne Falls Road over Bear River; two 26.5-foot spans, reinforced concrete beam; approved August 16, 1927.

Danvers — Water Street over Waters Rivers; two spans, total length 49 feet, reinforced concrete slab; approved June 7, 1927.

Easthampton — Cottage Street over Spillway (Broad Brook); one 27-foot to 30.5-foot span, I-beam solid floor; approved July 12, 1927.

Egremont — Jug End Road over Karner Brook; 12-foot span, I-beam concrete arch; approved September 13, 1927.

Framingham — Salem End Road over Stony Brook Reservoir No. 1; 30-foot span, reinforced concrete beam; approved August 9, 1927.

Fall River — Weaver Street over New York, New Haven and Hartford Railroad, Old Colony Division; 56.5-foot span, deck plate girder; approved August 9, 1927.

Great Barrington — Bridge Street over Housatonic River; 102.75-foot span, double bow string truss; approved March 29, 1927.

Medway — Winthrop Street over Chicken Brook; 17-foot span, reinforced concrete slab; approved August 19, 1927.

Millbury — Riverlin Street over Blackstone River; reinforcement of steel truss; approved January 4, 1927.

Millville — Central Street over Blackstone River; 120-foot span, wooden truss; approved November 29, 1927.

Northampton — Loudville Bridge over North Branch Manhan River; 42-foot span, reinforced concrete arch; approved May 3, 1927.

Pittsfield — Pomeroy Avenue over Housatonic River; 81-foot span, steel plate girder, reinforced concrete slab deck; approved May 24, 1927.

Taunton — West Britannia Street over Mill River; two 22-foot spans, reinforced concrete beam and slab; approved December 7, 1926.

Weymouth — Over New York, New Haven and Hartford Railroad; three spans, total length 83.33 feet; steel trestle, solid floor; approved June 28, 1927.

#### BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the bridge shall be paid by the Commonwealth.

General repairs, new floor system, cleaning and painting steel and repairs to piers and draw machinery were made during the year.



The number of draw openings during the year ending Nov. 30, 1927, was 200. In 1926 the number was 209; in 1925, 169; and in 1924, 228.

The total expenditures during the year were \$4,458.68.

The total expenditures from 1912 to Nov. 30, 1927, inclusive, were \$133,666.86.

#### BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET.

The charge of this bridge was placed in the Massachusetts Highway Commission, and the same made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and of operating the draw and maintaining the bridge shall be paid by the Commonwealth.

Cleaning and painting steel and repairs to draw gate machinery were made during the year.

The number of draw openings during the year ending Nov. 30, 1927, was 2,043. In 1926 the number was 1,617; in 1925, 2,406; and in 1924, 2,948.

The total expenditures during the year were \$20,242.99.

The total expenditures from 1912 to Nov. 30, 1927, inclusive, were \$284,524.59.

#### CONSTRUCTION OF TOWN AND COUNTY WAYS.

(Section 34, chapter 90, General Laws, as amended by chapter 288, Acts of 1925)

During the year contracts were made for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:—

COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length contracted for (Feet).
<i>Barnstable County.</i>					
Barnstable . . . .	\$10,000 00	\$10,000 00	\$10,000 00	Bituminous concrete . . . .	5,307
Mashpee . . . . .	1,150 00	—	—	Repairs and oiling . . . .	8,600
Yarmouth . . . . .	5,000 00	—	2,500 00	Bituminous concrete . . . .	647
<i>Berkshire County.</i>					
Alford . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	850
Clarksburg . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	5800
Egremont . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,150
Florida . . . . .	3,000 00	3,000 00	—	Gravel . . . . .	950
Great Barrington . . . . .	8,000 00	8,000 00	—	Gravel . . . . .	3,300
Hancock . . . . .	2,000 00	500 00	2,000 00	Gravel . . . . .	1,450
Lee . . . . .	10,000 00	10,000 00	—	Bituminous macadam . . . .	2,300
Mount Washington . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	400
New Marlborough . . . . .	600 00	600 00	—	Gravel . . . . .	400
New Marlborough . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,120
New Marlborough . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,400
Otis . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	500
Peru . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	650
Richmond . . . . .	2,400 00	1,200 00	—	Gravel . . . . .	565
Savoy . . . . .	15,000 00	—	5,000 00	Gravel . . . . .	2,800
Sheffield . . . . .	1,000 00	1,000 00	500 00	Gravel . . . . .	700
Tyringham . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . .	1,000
Washington . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,813
West Stockbridge . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	1,085
West Stockbridge . . . . .	24,400 00	18,600 00	—	Two bridges and approaches to one bridge . . . . .	400
Williamstown . . . . .	2,000 00	4,000 00	—	Gravel . . . . .	1,600
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	650
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	700
<i>Bristol County.</i>					
Acushnet . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . .	2,000
Berkley . . . . .	1,500 00	1,500 00	—	Repairs and oiling . . . .	36,880
Easton . . . . .	5,000 00	5,000 00	—	Bituminous macadam . . . .	2,000
Freetown . . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . . . .	2,800
Rehoboth . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . . .	3,600
Somerset . . . . .	7,000 00	13,000 00	3,500 00	Bituminous macadam . . . .	1,900
Taunton . . . . .	15,000 00	30,000 00	—	Reinforced cement concrete .	4,874
<i>Dukes County.</i>					
Edgartown . . . . .	12,000 00	6,000 00	6,000 00	Bituminous concrete . . . .	4,735
<i>Essex County.</i>					
Andover . . . . .	11,750 00	11,750 00	11,750 00	Bridge and approaches . . .	630
		Railroad . . . . .	10,250 00		
Beverly . . . . .	11,000 00	11,000 00	11,000 00	Bituminous macadam . . . .	4,100
Boxford . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,600
Boxford . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Danvers . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . .	4,400
Essex . . . . .	2,500 00	2,500 00	—	Repairs and oiling . . . .	25,660
Georgetown . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,250

COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length con- tracted for (Feet).
<i>Essex County — Con.</i>					
Groveland . . . .	\$1,000 00	\$1,000 00	\$1,000 00	Gravel . . . .	1,562
Groveland . . . .	1,200 00	1,200 00	1,200 00	Gravel . . . .	2,050
Groveland . . . .	27,650 00	4,000 00	13,350 00	Bituminous macadam . .	4,614
Hamilton . . . .	5,500 00	5,500 00	5,500 00	Bituminous macadam . .	2,229
Ipswich . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . .	7,400
Methuen . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	5,250
Newbury . . . .	3,300 00	3,300 00	3,300 00	Gravel . . . .	3,652
Rockport . . . .	20,000 00	15,000 00	10,000 00	Bituminous macadam . .	5,103
Rowley . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . .	1,800
Salem . . . .	11,000 00			Reinforced cement concrete	1,000
Salisbury . . . .	5,500 00	5,000 00	5,000 00	Bituminous macadam . .	1,450
Saugus . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . .	3,750
Wenham . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam . .	2,775
West Newbury . . .	5,000 00	5,000 00	5,000 00	Gravel . . . .	4,150
<i>Franklin County.</i>					
Ashfield . . . .	6,500 00	1,500 00	1,000 00	Gravel . . . .	3,150
Ashfield . . . .	1,500 00	1,500 00	—	Gravel . . . .	1,100
Ashfield . . . .	2,500 00	1,500 00	—	Gravel . . . .	1,300
Ashfield . . . .	1,500 00	1,500 00	—	Gravel . . . .	1,000
Buckland . . . .	5,000 00	4,000 00	1,000 00	Bituminous macadam . .	2,925
Buckland . . . .	4,000 00	3,000 00	—	Bituminous macadam . .	2,300
Charlmont . . . .	1,500 00	500 00	1,000 00	Gravel . . . .	1,200
Colrain . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	2,000
Conway . . . .	2,500 00	1,200 00	1,000 00	Gravel . . . .	2,084
Erving . . . .	300 00	300 00	—	Repairs and oiling . .	912
Gill . . . .	21,000 00	2,000 00	5,000 00	Gravel . . . .	5,121
Hawley . . . .	1,000 00	500 00	500 00	Gravel . . . .	1,400
Hawley . . . .	1,000 00	500 00	500 00	Gravel . . . .	700
Heath . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	1,550
Leverett . . . .	1,500 00	500 00	1,000 00	Gravel . . . .	1,607
Leyden . . . .	1,000 00	500 00	500 00	Gravel . . . .	700
Montague . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	3,000
New Salem . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	2,000
Northfield . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	1,647
Orange . . . .	1,500 00	1,500 00	1,000 00	Gravel . . . .	2,500
Rowe . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	1,000
Shelburne . . . .	12,000 00	6,000 00	2,000 00	Gravel . . . .	4,500
Shelburne . . . .	2,000 00	2,000 00	—	Gravel . . . .	1,300
Shelburne . . . .	4,000 00	—	—	Gravel . . . .	1,172
Shutesbury . . . .	1,600 00	800 00	800 00	Gravel . . . .	1,500
Sunderland . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	1,565
Warwick . . . .	1,000 00	500 00	500 00	Gravel . . . .	600
Warwick . . . .	1,000 00	500 00	500 00	Gravel . . . .	700
Warwick . . . .	6,000 00	—	2,000 00	Gravel . . . .	4,000
Wendell . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . .	1,500
Whately . . . .	7,000 00	3,000 00	3,000 00	Bituminous macadam . .	2,400
<i>Hampden County.</i>					
Agawam . . . .	23,000 00	23,000 00	23,000 00	Bituminous macadam . .	8,150
Brimfield . . . .	3,000 00	2,000 00	3,000 00	Gravel . . . .	2,500
Chester . . . .	7,500 00	500 00	7,500 00	Gravel . . . .	3,650
Chester . . . .	2,000 00	500 00	2,000 00	Gravel . . . .	1,300
Chester . . . .	1,500 00	1,000 00	1,500 00	Gravel . . . .	1,300
East Longmeadow . .	4,500 00	4,500 00	4,500 00	Bituminous macadam . .	5,350
Granville . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . .	2,500
Hampden . . . .	7,000 00	3,500 00	7,000 00	Bituminous macadam . .	4,000
Hampden . . . .	2,000 00	500 00	2,000 00	Bituminous macadam . .	750
Holland . . . .	1,000 00	500 00	1,000 00	Gravel . . . .	800
Holyoke . . . .	30,000 00	60,000 00	30,000 00	Reinforced cement concrete	7,400
Ludlow . . . .	10,000 00	15,000 00	10,000 00	Bituminous macadam . .	9,072
Montgomery . . . .	1,000 00	300 00	1,000 00	Gravel . . . .	800
Palmer . . . .	1,350 00	1,350 00	1,350 00	Bituminous macadam . .	2,440
Russell . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . .	3,050
Southwick . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . .	2,100
Tolland . . . .	3,000 00	1,500 00	3,000 00	Gravel . . . .	1,800
Wilbraham . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . .	1,975
Wilbraham . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . .	2,500
<i>Hampshire County.</i>					
Belchertown . . . .	3,000 00	2,000 00	1,000 00	Bituminous macadam . .	2,046
Chesterfield . . . .	500 00	500 00	500 00	Gravel . . . .	450
Enfield . . . .	750 00	—	—	Repairs and oiling . .	8,976
Goshen . . . .	1,400 00	700 00	700 00	Gravel . . . .	1,300
Granby . . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . .	1,950
Granby . . . .	1,000 00	6,000 00	—	Bridge . . . .	—
Greenwich . . . .	1,000 00	500 00	500 00	Gravel . . . .	2,000
Hadley . . . .	26,000 00	15,000 00	15,000 00	Gravel . . . .	8,250
Middlefield . . . .	3,000 00	500 00	1,000 00	Gravel . . . .	1,100
Middlefield . . . .	4,500 00	—	—	Gravel . . . .	8,400
Northampton . . . .	5,000 00	5,000 00	3,000 00	Gravel . . . .	7,700
Pelham . . . .	1,000 00	500 00	500 00	Gravel . . . .	1,000
Prescott . . . .	1,000 00	500 00	500 00	Gravel . . . .	800
Plainfield . . . .	10,000 00	1,000 00	3,000 00	Bridge and approaches . .	2,600
South Hadley . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . .	800
Ware . . . .	3,800 00	900 00	2,900 00	Bituminous macadam . .	741
Westhampton . . . .	800 00	400 00	400 00	Gravel . . . .	975
Worthington . . . .	600 00	—	—	Culvert . . . .	—
Worthington . . . .	2,000 00	—	—	Repairs and oiling . .	60,720



## COUNTIES AND TOWNS.

	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length con- tracted for (Feet).
<i>Middlesex County.</i>					
Acton . . . . .	\$13,000 00	\$13,000 00	\$13,000 00	Bituminous macadam	8,585
Acton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	700
Acton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,625
Acton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Ashby . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	17,952
Ayer . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam	4,100
Bedford . . . . .	300 00	300 00	300 00	Gravel . . . . .	800
Belmont . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Billerica . . . . .	3,000 00	5,000 00	3,000 00	Gravel . . . . .	13,500
Boxborough . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,500
Boxborough . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	23,760
Burlington . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,000
Burlington . . . . .	2,000 00	2,000 00	500 00	Repairs and oiling . . . . .	34,848
Carlisle . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,200
Carlisle . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	4,936
Chelmsford . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam	1,136
Chelmsford . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam	458
Chelmsford . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,200
Dracut . . . . .	3,200 00	3,200 00	3,200 00	Bituminous macadam	2,400
Dracut . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	8,200
Dunstable . . . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . . . .	41,184
Frammingham . . . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam	3,550
Groton . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	6,400
Hopkinton . . . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,200
Lexington . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	18,000
Lexington . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,200
Lincoln . . . . .	7,500 00	7,500 00	7,500 00	Bituminous macadam	4,000
Littleton . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	29,568
Littleton . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	3,000
Malden . . . . .	2,000 00	6,000 00	-	Bituminous macadam and reinforced cement concrete	882
Marlborough . . . . .	12,000 00	20,000 00	16,000 00	Reinforced cement concrete	2,597
Marlborough . . . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,350
Medford . . . . .	6,000 00	18,000 00	-	Bituminous macadam and reinforced cement concrete	2,333
Natick . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,688
North Reading . . . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . . . . .	48,840
Pepperell . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	20,550
Pepperell . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	7,000
Pepperell . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	4,900
Sherborn . . . . .	1,800 00	1,800 00	1,800 00	Gravel . . . . .	2,140
Sherborn . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	39,600
Sherborn . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,800
Shirley . . . . .	9,000 00	6,000 00	9,000 00	Bituminous macadam	2,555
Stow . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	36,960
Sudbury . . . . .	3,500 00	3,500 00	3,500 00	Gravel . . . . .	4,000
Sudbury . . . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . . . .	68,640
Townsend . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	3,500
Tyngsborough . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	34,320
Tyngsborough . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,800
Wayland . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	50,160
Westford . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	53,500
Westford . . . . .	1,000 00	2,000 00	1,000 00	Repairs and oiling . . . . .	21,000
Weston . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam	4,600
Wilmington . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	18,480
Wilmington . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,000
<i>Nantucket County.</i>					
Nantucket . . . . .	5,000 00	5,000 00	-	Bituminous concrete	2,600
<i>Norfolk County.</i>					
Bellingham . . . . .	10,000 00	5,000 00	5,000 00	Gravel . . . . .	8,042
Bellingham . . . . .	2,650 00	1,325 00	1,325 00	Gravel . . . . .	23,700
Braintree . . . . .	13,500 00	10,000 00	13,000 00	Bituminous macadam	3,450
Canton . . . . .	23,000 00	5,000 00	6,000 00	Bituminous macadam	2,661
Canton . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,050
Canton . . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam	2,100
Dedham . . . . .	1,200 00	-	400 00	Filling cellar holes . . . . .	-
Dover . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam	845
Franklin . . . . .	6,000 00	6,000 00	6,000 00	Gravel . . . . .	3,652
Medfield . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam	2,550
Medway . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,100
Medway . . . . .	16,000 00	8,000 00	8,000 00	Bituminous macadam	3,550
Millis . . . . .	20,000 00	10,000 00	10,000 00	Bituminous macadam	6,000
Milton . . . . .	12,000 00	12,000 00	9,000 00	Bituminous macadam	2,181
Needham . . . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam	4,050
Norfolk . . . . .	6,000 00	2,000 00	4,000 00	Gravel . . . . .	3,600
Norfolk . . . . .	1,000 00	1,000 00	-	Repairs and oiling . . . . .	21,648
Randolph . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	600
Sharon . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	1,837
Stoughton . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam	1,155
Walpole . . . . .	5,000 00	10,000 00	5,000 00	Bituminous concrete	2,242
<i>Plymouth County.</i>					
Duxbury . . . . .	15,000 00	10,000 00	10,000 00	Bituminous concrete	9,608
East Bridgewater . . . . .	8,000 00	8,000 00	5,000 00	Bridge and approaches	4,488
Hanson . . . . .	10,000 00	5,000 00	5,000 00	Bituminous concrete	4,000

COUNTIES AND TOWNS.	CONTRIBUTIONS.			Type of Road.	Length contracted for (Feet).
	State.	Town.	County.		
<i>Plymouth County — Con.</i>					
Kingston . . .	\$11,000 00	\$7,000 00	\$7,000 00	Bituminous macadam .	6,595
Lakeville . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam .	3,083
Mattapoisett . . .	6,000 00	6,000 00	3,000 00	Bituminous macadam .	3,300
Middleborough . . .	5,000 00	5,000 00	3,000 00	Gravel . . .	7,800
Pembroke . . .	8,800 00	3,000 00	3,000 00	Bituminous concrete .	4,050
Plympton . . .	21,000 00	6,000 00	5,000 00	Bituminous concrete .	7,778
Rochester . . .	6,000 00	3,000 00	3,000 00	Gravel . . .	6,000
West Bridgewater . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam .	2,476
<i>Worcester County.</i>					
Ashburnham . . .	23,334 00	14,000 00	18,666 00	Bituminous macadam .	5,780
Berlin . . .	8,500 00	4,000 00	8,500 00	Bridge and approaches .	2,000
Blackstone . . .	3,500 00	3,500 00	3,500 00	Gravel . . .	3,250
Bolton . . .	5,000 00	1,000 00	5,000 00	Bituminous macadam .	2,500
Bolton . . .	6,000 00	2,000 00	6,000 00	Bridge and approaches .	550
Boylston . . .	20,000 00	3,500 00	12,000 00	Bituminous macadam .	5,850
Boylston . . .	700 00	700 00	700 00	Repairs and oiling .	30,816
Brookfield . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	1,500
Dana . . .	2,500 00	1,000 00	2,500 00	Gravel . . .	1,500
Dudley . . .	800 00	800 00	—	Repairs and oiling .	13,522
Harvard . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam .	5,450
Harvard . . .	2,000 00	1,000 00	1,000 00	Gravel . . .	17,424
Holden . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	2,500
Hubbardston . . .	1,000 00	500 00	1,000 00	Repairs and oiling .	42,240
Hubbardston . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	1,300
Lancaster . . .	10,000 00	10,000 00	10,000 00	Bridge and approaches .	700
Lunenburg . . .	500 00	500 00	500 00	Repairs and oiling .	3,696
Mendon . . .	6,500 00	3,000 00	6,500 00	Gravel . . .	3,684
New Braintree . . .	8,750 00	2,500 00	8,750 00	Gravel . . .	4,846
Oakham . . .	3,000 00	1,500 00	3,000 00	Gravel . . .	1,500
Oxford . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam .	4,400
Petersham . . .	5,000 00	3,000 00	5,000 00	Gravel . . .	3,076
Phillipston . . .	3,000 00	1,000 00	3,000 00	Gravel . . .	1,234
Princeton . . .	14,500 00	—	14,500 00	Gravel . . .	6,300
Princeton . . .	4,000 00	2,000 00	4,000 00	Gravel . . .	2,971
Royalston . . .	1,000 00	500 00	1,000 00	Gravel . . .	850
Royalston . . .	3,000 00	1,500 00	3,000 00	Gravel . . .	2,532
Rutland . . .	4,000 00	2,000 00	4,000 00	Gravel . . .	24,575
Rutland . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam .	3,300
Southborough . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam .	3,089
Spencer . . .	5,000 00	5,000 00	5,000 00	Gravel . . .	2,300
Sterling . . .	5,500 00	2,500 00	5,500 00	Gravel . . .	3,454
Sterling . . .	800 00	—	800 00	Repairs and oiling .	7,842
Sutton . . .	20,000 00	10,000 00	20,000 00	Bituminous macadam .	7,500
Templeton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	1,900
Templeton . . .	30,000 00	20,000 00	30,000 00	Bituminous macadam .	8,600
Warren . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	1,800
West Brookfield . . .	70,000 00	—	14,000 00	Bituminous macadam .	9,097
Westminster . . .	800 00	—	800 00	Repairs and oiling .	4,675

The expenditures during the year in the various counties were: —

Barnstable, \$20,089.08	Hampshire, \$81,600.01
Berkshire, \$104,832.63	Middlesex, \$237,890.69
Bristol, \$53,784.20	Nantucket, \$5,772.04
Dukes, \$55,313.58	Norfolk, \$176,752.04
Essex, \$141,175.86	Plymouth, \$124,996.28
Franklin, \$121,982.95	Worcester, \$428,851.46
Hampden, \$128,627.32	Total, \$1,681,668.14

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$13,911.57; Mashpee, \$1,250.47; Yarmouth, \$4,927.04.

*Berkshire County.* — Alford, \$1,176.04; Becket, \$2,536.05; Clarksburg, \$1,176.04; Egremont, \$1,176.04; Florida, \$3,528.13; Great Barrington, \$6,213.56; Hancock, \$5,879.02; Lee, \$9,613.08; Monterey, \$2,702.23; Mount Washington, \$1,176.04; New Marlborough, \$5,409.80; Otis, \$6,997.89; Peru, \$6,468.26; Richmond, \$2,822.40; Savoy, \$17,763.37; Sheffield, \$1,176.04; Tyringham, \$2,351.38; Washington, \$2,352.08; West Stockbridge, \$19,611.04; Williamstown, \$2,352.06; Windsor, \$2,352.08.

*Bristol County.* — Acushnet, \$5,880.22; Berkley, \$1,764.06; Easton, \$5,164.39; Freetown, \$8,389.36; Rehoboth, \$6,773.91; Somerset, \$8,171.61; Taunton, \$17,640.65.

*Dukes County.* — Edgartown, \$26,676.51; Oak Bluffs, \$25,490.56; Tisbury, \$3,146.51.

*Essex County.* — Beverly, \$9,573.11; Boxford, \$2,352.10; Danvers, \$9,984.58;



Essex, \$2,940.12; Georgetown, \$2,352.10; Groveland, \$21,882.06; Hamilton, \$5,817.65; Ipswich, \$5,854.34; Methuen, \$11,760.34; Newbury, \$3,880.17; Rockport, \$18,744.76; Rowley, \$1,176.04; Salem, \$12,815.86; Salisbury, \$3,879.45; Saugus, \$13,256.22; Wenham, \$9,026.74; West Newbury, \$5,880.22;

*Franklin County.* — Ashfield, \$16,333.09; Buckland, \$10,584.18; Charlemont, \$1,764.06; Colrain, \$2,352.07; Conway, \$4,393.94; Erving, \$145.92; Gill, \$22,-182.99; Hawley, \$2,352.09; Heath, \$2,352.09; Leverett, \$1,764.07; Leyden, \$1,-172.00; Montague, \$2,352.08; New Salem, \$2,352.08; Northfield, \$2,352.08; Orange, \$1,950.69; Rowe, \$2,352.08; Shelburne, \$19,942.57; Shutesbury, \$1,876.66; Sunderland, \$2,352.08; Warwick, \$10,471.75; Wendell, \$2,352.08; Whately, \$8,232.30.

*Hampden County.* — Agawam, \$16,011.05; Blandford, \$11,753.65; Brimfield, \$3,528.13; Chester, \$12,934.31; East Longmeadow, \$5,007.60; Granville, \$4,704.17; Hampden, \$9,290.75; Holland, \$1,176.04; Holyoke, \$25,006.97; Ludlow, \$11,745.12; Montgomery, \$1,176.04; Palmer, \$1,587.66; Russell, \$3,528.13; Southwick, \$2,-352.08; Tolland, \$3,526.87; West Springfield, \$9,418.55; Wilbraham, \$5,880.20.

*Hampshire County.* — Belchertown, \$3,528.13; Chesterfield, \$1,763.54; Cummington, \$418.67; Enfield, \$882.04; Goshen, \$2,219.84; Granby, \$5,688.79; Greenwich, \$1,176.01; Hadley, \$23,212.62; Middlefield, \$8,820.32; Northampton, \$5,880.20; Pelham, \$1,176.04; Plainfield, \$12,482.89; Prescott, \$1,173.76; South Hadley, \$1,173.19; Ware, \$6,347.02; Westhampton, \$940.83; Williamsburg, \$1,664.32; Worthington, \$3,051.80.

*Middlesex County.* — Acton, \$16,336.90; Ashby, \$1,176.04; Ashland, \$298.16; Ayer, \$8,941.03; Bedford, \$1,293.65; Belmont, \$1,176.04; Billerica, \$10,130.81; Boxborough, \$1,764.06; Burlington, \$4,703.18; Carlisle, \$5,762.02; Chelmsford, \$8,193.09; Dracut, \$17,871.54; Dunstable, \$2,058.08; Framingham, \$9,264.48; Groton, \$5,880.22; Hopkinton, \$4,704.18; Lexington, \$12,936.47; Lincoln, \$8,467.51; Littleton, \$3,763.34; Malden, \$673.19; Marlborough, \$21,842.31; Medford, \$13,-284.91; Natick, \$11,667.32; North Reading, \$5,880.22; Pepperell, \$7,876.03; Shirley, \$9,600.29; Sherborn, \$4,468.81; Stow, \$1,764.06; Sudbury, \$8,467.51; Townsend, \$3,528.13; Tyngsborough, \$2,352.09; Wayland, \$2,352.09; Westford, \$5,274.15; Weston, \$11,198.66; Wilmington, \$2,940.12.

*Nantucket County.* — Nantucket, \$5,772.04.

*Norfolk County.* — Bellingham, \$18,658.06; Braintree, \$11,737.25; Canton, \$30,494.81; Dedham, \$1,528.86; Dover, \$2, 124.02; Franklin, \$7,056.26; Holbrook, \$588.02; Medfield, \$13,133.28; Medway, \$18,834.66; Millis, \$20,551.28; Milton, \$10,808.53; Needham, \$8,742.54; Norfolk, \$8,080.58; Randolph, \$2,374.38; Sharon, \$5,880.22; Stoughton, \$4,966.90; Walpole, \$11,192.39.

*Plymouth County.* — Duxbury, \$17,640.64; East Bridgewater, \$7,850.07; Hanson, \$11,349.99; Kingston, \$12,936.47; Lakeville, \$11,566.85; Mattapoisett, \$7,055.46; Middleborough, \$10,112.79; Norwell, \$521.08; Pembroke, \$10,349.18; Plympton, \$22,167.64; Rochester, \$9,873.44; West Bridgewater, \$3,572.67.

*Worcester County.* — Ashburnham, \$24,780.09; Barre, \$4,080.52; Berlin, \$5,690.-68; Blackstone, \$4,554.46; Bolton, \$11,826.41; Boylston, \$28,283.62; Brookfield, \$2,352.09; Dana, \$2,940.04; Dudley, \$940.83; Grafton, \$363.70; Harvard, \$15,-004.69; Holden, \$2,898.44; Hubbardston, \$3,528.13; Lancaster, \$8,247.91; Lunenburg, \$407.64; Mendon, \$7,481.75; Milbury, \$1,400.24; New Braintree, \$6,-492.32; Oakham, \$3,528.08; Oxford, \$4,244.03; Paxton, \$264.53; Petersham, \$6,529.30; Phillipston, \$3,528.13; Princeton, \$23,103.70; Royalston, \$4,704.18; Rutland, \$10,555.33; Southborough, \$13,382.82; Southbridge, \$5,764.00; Spencer, \$5,782.57; Sterling, \$10,559.63; Sutton, \$3,699.06; Templeton, \$28,869.68; Uxbridge, \$705.62; Warren, \$2,352.09; West Brookfield, \$157,551.58; Westminster, \$2,740.19; Winchendon, \$1,387.38; Worcester, \$8,326.00.

## REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1921, by chapter 281, Acts of 1922, and by chapter 315, Acts of 1926.)

During the year contracts were made for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns: —

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$3,000 00
Dennis . . . . .	80	8,000 00	6,000 00
Eastham . . . . .	40	4,000 00	2,000 00
Harwich . . . . .	74	7,400 00	7,400 00
Mashpee . . . . .	26	2,600 00	1,300 00
Sandwich . . . . .	66	6,600 00	4,950 00
Truro . . . . .	27	2,700 00	2,025 00
Wellfleet . . . . .	35	3,500 00	2,625 00
Yarmouth . . . . .	61	6,100 00	6,100 00
<i>Berkshire County:</i>			
Alford . . . . .	20	2,000 00	800 00
Becket . . . . .	60	6,000 00	2,400 00
Cheshire . . . . .	42	4,200 00	3,150 00
Egremont . . . . .	31	3,100 00	2,325 00
Florida . . . . .	42	4,200 00	3,150 00
Hancock . . . . .	30	3,000 00	1,500 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	39	3,900 00	2,925 00
Monterey . . . . .	53	5,300 00	1,325 00
Mt. Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	53	5,300 00	1,325 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	36	3,600 00	1,800 00
Sandisfield . . . . .	84	8,400 00	1,260 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,250 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	38	3,800 00	3,800 00
Windsor . . . . .	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkeley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	4,700 00
Norton . . . . .	57	5,700 00	7,125 00
Raynham . . . . .	44	4,400 00	4,400 00
Rehoboth . . . . .	108	10,800 00	5,400 00
Swansea . . . . .	48	4,800 00	7,200 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,050 00
<i>Essex County:</i>			
Boxford . . . . .	52	5,200 00	2,600 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	30	3,000 00	4,500 00
Merrimac . . . . .	30	3,000 00	4,500 00
Middleton . . . . .	29	2,900 00	3,625 00
Newbury . . . . .	36	3,600 00	5,400 00
Rowley . . . . .	30	3,000 00	3,750 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	82	8,200 00	3,280 00
Bernardston . . . . .	41	4,100 00	2,050 00
Buckland . . . . .	44	4,400 00	6,600 00
Charlemont . . . . .	50	5,000 00	2,500 00
Colrain . . . . .	86	8,600 00	6,450 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Franklin County — Con.</i>			
Conway . . . . .	76	\$7,600 00	\$1,900 00
Gill . . . . .	36	3,600 00	2,700 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	54	5,400 00	810 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	41	4,100 00	615 00
Monroe . . . . .	18	1,800 00	2,250 00
New Salem . . . . .	64	6,400 00	1,600 00
Northfield . . . . .	68	6,800 00	5,100 00
Rowe . . . . .	41	4,100 00	1,025 00
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Warwick . . . . .	55	5,500 00	1,375 00
Wendell . . . . .	47	4,700 00	1,880 00
Whately . . . . .	41	4,100 00	3,075 00
<i>Hampden County:</i>			
Blandford . . . . .	83	8,300 00	2,075 00
Brimfield . . . . .	60	6,000 00	3,000 00
Chester . . . . .	66	6,600 00	4,950 00
Granville . . . . .	73	7,300 00	1,825 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	5,000 00
Tolland . . . . .	41	4,100 00	1,025 00
Wales . . . . .	25	2,500 00	1,250 00
<i>Hampshire County:</i>			
Belchertown . . . . .	115	11,500 00	4,600 00
Chesterfield . . . . .	58	5,800 00	870 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,850 00
Goshen . . . . .	28	2,800 00	700 00
Granby . . . . .	46	4,600 00	2,300 00
Greenwich . . . . .	39	3,900 00	1,560 00
Middlefield . . . . .	38	3,800 00	570 00
Pelham . . . . .	40	4,000 00	1,600 00
Plainfield . . . . .	49	4,900 00	735 00
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	62	6,200 00	2,480 00
Westhampton . . . . .	48	4,800 00	720 00
Williamsburg . . . . .	46	4,600 00	4,600 00
Worthington . . . . .	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton . . . . .	57	5,700 00	7,125 00
Ashby . . . . .	57	5,700 00	2,850 00
Ashland . . . . .	38	3,800 00	5,700 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	31	3,100 00	3,875 00
Carlisle . . . . .	43	4,300 00	1,720 00
Dunstable . . . . .	36	3,600 00	1,440 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,000 00
Lincoln . . . . .	40	4,000 00	6,600 00
Littleton . . . . .	41	4,100 00	4,100 00
North Reading . . . . .	28	2,800 00	4,200 00
Sherborn . . . . .	42	4,200 00	4,200 00
Shirley . . . . .	46	4,600 00	5,750 00

Counties and Towns.	Miles of Road.	Allotments. State.      Town.	
<i>Middlesex County — Con.</i>			
Stow . . . . .	45	\$4,500 00	\$4,500 00
Sudbury . . . . .	59	5,900 00	4,425 00
Tewksbury . . . . .	54	5,400 00	6,750 00
Townsend . . . . .	70	7,000 00	5,250 00
Tyngsborough . . . . .	41	4,100 00	3,075 00
Wilmington . . . . .	43	4,300 00	6,450 00
<i>Norfolk County:</i>			
Bellingham . . . . .	42	4,200 00	5,250 00
Medfield . . . . .	40	4,000 00	6,000 00
Medway . . . . .	44	4,400 00	6,600 00
Millis . . . . .	38	3,800 00	5,700 00
Norfolk . . . . .	41	4,100 00	4,100 00
Plainville . . . . .	34	3,400 00	4,250 00
Wrentham . . . . .	46	4,600 00	5,750 00
<i>Plymouth County:</i>			
Carver . . . . .	67	6,700 00	6,700 00
Halifax . . . . .	32	3,200 00	3,200 00
Hanson . . . . .	35	3,500 00	5,250 00
Lakeville . . . . .	45	4,500 00	3,375 00
Norwell . . . . .	47	4,700 00	4,700 00
Pembroke . . . . .	47	4,700 00	5,875 00
Plympton . . . . .	30	3,000 00	2,250 00
Rochester . . . . .	49	4,900 00	3,675 00
West Bridgewater . . . . .	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham . . . . .	77	7,700 00	5,775 00
Berlin . . . . .	39	3,900 00	2,925 00
Bolton . . . . .	53	5,300 00	2,120 00
Boylston . . . . .	40	4,000 00	2,000 00
Brookfield . . . . .	36	3,600 00	3,600 00
Charlton . . . . .	110	11,000 00	5,550 00
Dana . . . . .	45	4,500 00	1,800 00
Douglas . . . . .	70	7,000 00	5,250 00
East Brookfield . . . . .	19	1,900 00	2,375 00
Harvard . . . . .	56	5,600 00	4,200 00
Holden . . . . .	77	7,700 00	7,700 00
Hubbardston . . . . .	75	7,500 00	3,000 00
Lancaster . . . . .	59	5,900 00	7,375 00
Lunenburg . . . . .	65	6,500 00	4,875 00
Mendon . . . . .	36	3,600 00	2,700 00
New Braintree . . . . .	49	4,900 00	1,225 00
North Brookfield . . . . .	69	6,900 00	8,625 00
Northborough . . . . .	47	4,700 00	5,875 00
Oakham . . . . .	45	4,500 00	1,125 00
Paxton . . . . .	29	2,900 00	2,125 00
Petersham . . . . .	71	7,100 00	5,325 00
Phillipston . . . . .	41	4,100 00	1,025 00
Princeton . . . . .	72	7,200 00	2,880 00
Royalston . . . . .	67	6,700 00	3,350 00
Rutland . . . . .	68	6,800 00	3,400 00
Southborough . . . . .	48	4,800 00	7,200 00
Sterling . . . . .	72	7,200 00	3,600 00
Sturbridge . . . . .	76	7,600 00	3,800 00
Sutton . . . . .	84	8,400 00	6,300 00
Upton . . . . .	60	6,000 00	4,500 00
West Boylston . . . . .	35	3,500 00	3,500 00
West Brookfield . . . . .	53	5,300 00	3,975 00
Westminster . . . . .	77	7,700 00	3,080 00



The expenditures during the year in various counties were: —

Barnstable, \$50,759.90	Hampden, \$55,708.13
Berkshire, \$112,832.97	Hampshire, \$86,635.10
Bristol, \$38,659.85	Middlesex, \$110,421.95
Dukes, \$1,381.64	Norfolk, \$31,844.10
Essex, \$35,307.85	Plymouth, \$43,018.40
Franklin, \$118,181.27	Worcester, \$219,843.65
	Total, \$904,594.81

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$4,201.19; Dennis, \$9,264.72; Eastham, \$4,375.-95; Harwich, \$8,212.29; Mashpee, \$2,531.88; Sandwich, \$8,300.22; Truro, \$3,-224.31; Wellfleet, \$3,910.68; Yarmouth, \$6,738.66.

*Berkshire County.* — Alford, \$2,249.98; Becket, \$7,521.49; Cheshire, \$4,764.19; Egremont, \$3,229.34; Florida, \$3,666.89; Hancock, \$2,439.79; Hinsdale, \$3,852.12; Lanesborough, \$4,912.45; Monterey, \$7,431.43; Mount Washington, \$2,234.67; New Ashford, \$1,259.26; New Marlborough, \$9,086.47; Otis, \$6,687.38; Peru, \$4,087.81; Richmond, \$3,470.52; Sandisfield, \$11,749.57; Savoy, \$6,362.94; Sheffield, \$7,834.-43; Tyringham, \$2,752.69; Washington, \$5,475.81; West Stockbridge, \$4,389.62; Windsor, \$7,374.42.

*Bristol County.* — Berkley, \$4,692.81; Freetown, \$5,251.48; Norton, \$6,368.82; Raynham, \$4,916.28; Rehoboth, \$12,067.24; Swansea, \$5,363.22.

*Dukes County.* — Chilmark, \$1,381.64.

*Essex County.* — Boxford, \$5,810.15; Georgetown, \$3,798.95; Groveland, \$3,352.01; Merrimac, \$3,352.01; Middleton, \$3,240.28; Newbury, \$4,022.41; Rowley, \$3,352.01; Topsfield, \$4,245.88; West Newbury, \$4,134.15.

*Franklin County.* — Ashfield, \$9,162.16; Bernardston, \$4,581.08; Buckland, \$4,692.81; Charlemont, \$5,642.55; Colrain, \$9,385.63; Conway, \$9,215.95; Gill, \$4,047.39; Hawley, \$5,474.95; Heath, \$6,033.62; Leverett, \$5,726.35; Leyden, \$4,553.15; Monroe, \$2,011.21; New Salem, \$7,123.02; Northfield, \$7,988.96; Rowe, \$4,581.08; Shelburne, \$5,251.49; Shutesbury, \$5,363.22; Sunderland, \$1,312.87; Warwick, \$6,145.35; Wendell, \$5,251.48; Whately, \$4,636.95.

*Hampden County.* — Blandford, \$8,857.91; Brimfield, \$6,495.00; Chester, \$7,172.04; Granville, \$8,156.56; Hampden, \$3,687.21; Holland, \$3,324.27; Montgomery, \$3,386.95; Southwick, \$5,586.68; Tolland, \$6,289.96; Wales, \$2,751.55.

*Hampshire County.* — Belchertown, \$13,128.71; Chesterfield, \$6,285.02; Cummington, \$5,474.95; Enfield, \$4,413.54; Goshen, \$3,128.54; Granby, \$5,335.28; Greenwich, \$4,413.48; Middlefield, \$4,574.63; Pelham, \$4,469.35; Plainfield, \$5,251.48; Prescott, \$4,329.68; Southampton, \$6,899.56; Westhampton, \$5,363.22; Williamsburg, \$5,083.88; Worthington, \$8,483.78.

*Middlesex County.* — Acton, \$6,704.02; Ashby, \$6,704.02; Ashland, \$6,826.93; Boxborough, \$3,146.42; Burlington, \$3,463.74; Carlisle, \$4,804.55; Dunstable, \$5,363.22; Holliston, \$5,363.22; Hopkinton, \$9,832.57; Lincoln, \$5,139.75; Littleton, \$4,357.61; North Reading, \$2,905.08; Sherborn, \$4,469.35; Shirley, \$5,139.75; Stow, \$4,804.55; Sudbury, \$6,368.82; Tewksbury, \$6,927.49; Townsend, \$7,821.36; Tyngsborough, \$5,139.75; Wilmington, \$5,139.75.

*Norfolk County.* — Bellingham, \$4,692.81; Medfield, \$4,469.35; Medway, \$4,916.28; Millis, \$4,245.88; Norfolk, \$4,581.08; Plainville, \$3,798.95; Wrentham, \$5,139.75.

*Plymouth County.* — Carver, \$7,342.23; Halifax, \$3,575.48; Hanson, \$4,500.01; Lakeville, \$5,028.02; Norwell, \$4,727.45; Pembroke, \$5,003.21; Plympton, \$3,102.-35; Rochester, \$5,474.95; West Bridgewater, \$4,264.70.

*Worcester County.* — Ashburnham, \$9,043.52; Berlin, \$4,539.71; Bolton, \$5,-921.89; Boylston, \$4,489.52; Brookfield, \$3,692.30; Charlton, \$12,078.56; Dana, \$5,028.02; Douglas, \$7,821.36; East Brookfield, \$2,443.23; Harvard, \$6,257.09; Holden, \$10,456.37; Hubbardston, \$8,377.97; Lancaster, \$6,592.29; Lunenburg, \$7,262.68; Mendon, \$4,146.37; New Braintree, \$5,448.09; North Brookfield, \$8,283.-17; Northborough, \$5,251.49; Oakham, \$5,028.02; Paxton, \$3,103.17; Petersham, \$7,929.94; Phillipston, \$4,581.08; Princeton, \$8,044.83; Royalston, \$7,405.30; Rutland, \$7,520.95; Southborough, \$5,875.49; Sterling, \$8,044.83; Sturbridge, \$9,217.11; Sutton, \$9,633.53; Upton, \$8,379.23; West Boylston, \$3,910.68; West Brookfield, \$5,432.37; Westminster, \$8,603.49.

CONTRACTS FOR THE RECONSTRUCTION OF STATE HIGHWAYS  
IN ANTICIPATION OF AN APPROPRIATION.

In Oct., 1927, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,780,000, this amount being twenty-five per cent of the appropriation of \$7,120,000 for the fiscal year ending November 30, 1927. The making of these contracts as aforesaid was approved by the Governor and Council Oct. 26, 1927.

REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF  
1926-1927.

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, and by chapters 180 and 342, Acts of 1925, regulations were adopted on February 8, 1927, and public notice thereof given, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated: —

- Barnstable, Plymouth, Bristol and Norfolk Counties, Feb. 21 to Apr. 16.
- Essex, Middlesex, Worcester and Hampden Counties, Mar. 1 to Apr. 23.
- Franklin, Hampshire and Berkshire Counties, Mar. 7 to Apr. 30.

PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR  
VEHICLES.

In accordance with sections 48A and 48B of chapter 280, Acts of 1925, which amends chapter 159, General Laws, 76 permits were granted during the year.

TRAFFIC COUNT.

The traffic on the State highways has been the subject of study this year, in accordance with the practice of the Department in making a traffic count every three years as an index of the use and importance of traffic routes.

In 1909, The Massachusetts Highway Commission commenced recording by actual count the amount and character of traffic over the more important highways throughout the State, and since that time the records have been made every three years.

The traffic count of the present year was made at 113 observation stations which were considered important points on the highway system and 73 of these stations were the same as those adopted for the 1924 count. At nearly all of these stations there was an increase in traffic over that of 1924. The total of all traffic passing these 73 stations in 1927 was about 13.3% greater than the total for 1924; the increases at the particular stations were of quite widely varying percentages, but it may be said that the percentages of increase in general were greater in the western part and the easterly sections than nearer the middle of the state. Each station, or group of stations or a route, however, must be considered separately in drawing conclusions from the data obtained.

Some of the principal figures of interest in the 1927 count are as follows: —

Number of observation stations on State highways	113
Total of the daily average number of vehicles passing all stations	368,071

Classified as follows:

(1) Passenger automobiles	331,632
(2) Motor Trucks	32,373
(3) Motor busses	2,494
(4) Motor cycles	1,572



Classified as to Registration: —

(5) Passenger automobiles					
(a) Massachusetts registration	.	.	.	.	265,690
(b) Out-of-state registration	.	.	.	.	65,942
(6) Motor Trucks					
(a) Massachusetts registration	.	.	.	.	29,961
(b) Out-of-State registration	.	.	.	.	2,412

The method of making the traffic count is as follows: Observers were engaged to record all motor vehicles passing each observation station for fourteen hours a day (7 A.M. to 9 P.M.) for seven consecutive days beginning August 20, 1927. Card records were made to indicate the number of motor vehicles passing, their types and whether or not of Massachusetts registration. This data was later tabulated and computations were made to show the total daily average number of vehicles passing each station, as well as the average number of motor cycles, passenger cars and trucks, together with the percentages of each class.

A tabulation of the daily average number of vehicles passing each station and their classification is given in the following tabulations for each District:

**TRAFFIC COUNT OF MOTOR VEHICLES ON STATE HIGHWAYS.**  
*Daily average number of motor vehicles passing designated points or stations during a period of fourteen hours each day for one week beginning Aug. 20, 1927, at 7 A.M.*

**DISTRICT 1.**

(1) Station Number.	(2) Automobile Route Number.	(3) CITY OR TOWN.	(4) Motor Cycles.	(5) PASSENGER AUTOMOBILES.			(8) MOTOR TRUCKS.			(11) Motor Trucks Registered outside of Mass.	(12) Motor Busses.	(13) Total Motor Vehicles.	(14) REMARKS.
				(6) Registered in Mass.	(7) Registered outside of Mass.	(8) Total Passenger Automobiles.	(9) Small Trucks.	(10) 1 Ton or more.	(11) Total Motor Trucks.				
102-A	8	Pittsfield .	15	789	391	1,180	82	89	171	7	4	1,370	North Adams Rd. Near junction of Rd. to Dalton. Near Sta. 73.
102-B	109	Pittsfield .	21	2,841	723	3,564	189	174	363	14	5	3,953	Dalton Rd. Near junction of Rd. to No. Adams at Sta. 49.
107-A	20	Pittsfield .	15	2,008	1,722	3,730	191	91	282	29	30	4,057	Albany Rd. at Sta. 203-West of Richmond Road only.
108	7-20	Lenox .	16	2,984	2,190	5,174	221	103	324	25	22	5,536	Pittsfield-Lenox Rd. Sta. 28.
111	7	Sheffield .	11	932	1,559	2,491	105	42	147	30	16	2,665	Sheffield Center. Sta. 310.
119-A	20	Becket .	13	1,197	802	1,999	50	54	104	9	11	2,127	Springfield-Pittsfield Rd. West of Bonney Rigg Corner.
119-B	8	Becket .	3	450	136	586	28	12	40	2	-	629	Washington Rd. at Bonney Rigg Corner.
201	2	Florida .	8	652	771	1,423	10	14	24	1	13	1,468	Mohawk Trail near Drury P. O.
103-A	2	Williamstown .	1	190	126	316	21	20	41	3	3	361	So. Williamstown-Hancock Rd.
103-B	7	Williamstown .	4	786	892	1,678	31	48	79	8	5	1,766	Steele's Corner. Sta. 122.
550-A	7	Stockbridge .	6	1,200	1,592	2,792	101	109	210	6	6	3,014	Pittsfield Rd. Steele's Corner. Sta. 122.
550-B	141	Stockbridge .	6	1,087	748	1,835	105	133	238	4	6	2,085	Stockbridge Rd. Mellen's Corner. Sta. 171.
112-A	17	Egremont .	5	469	782	1,251	66	8	74	18	1	1,331	Lee Rd. Mellen's Corner. Sta. 54.
112-B	17	Egremont .	2	234	257	491	48	3	51	7	1	545	Hudson, N. Y., Rd. Sta. 174. West of junction of State Roads.
450-A	20	Russell .	15	2,053	773	2,826	72	162	234	5	24	3,099	Undermountain Rd. Sta. 108. South of junction of State Roads. Springfield-Pittsfield Rd. North of junction of State Highway.



TRAFFIC COUNT OF MOTOR VEHICLES ON STATE HIGHWAYS — Continued.  
DISTRICT 1 — Concluded.

(1) Station Number.	(2) Automobile Route Number.	(3) CITY OR TOWN.	(4) Motor Cycles.	PASSENGER AUTOMOBILES.			MOTOR TRUCKS.			(11) Motor Trucks Registered outside of Mass.	(12) Motor Buses.	(13) Total Motor Vehicles.	(14) REMARKS.
				Registered in Mass.	Registered outside of Mass.	Total Passenger Automobiles.	Small Trucks.	1 Ton or more.	Total Motor Trucks.				
450-B	20	Russell . .	2	385	27	412	27	34	61	—	1	476	Blandford Rd. near Woronoco. West of junction of State Roads.
526	8	Clarksburg . .	4	621	192	813	63	36	99	32	5	921	River Road. Three miles north of North Adams.
106	109	Windsor Hill . .	5	828	286	1,114	24	29	53	1	1	1,173	Dalton Rd. One quarter of a mile N. E. of Windsor P. O. Sta. 30.
Totals			152			33,675			2,595	201	154	36,576	

## DISTRICT 2.

(1)	(2)	(3)	(4)	Registered in Mass.	Registered outside of Mass.	Total Passenger Automobiles.	Small Trucks.	1 Ton or more.	Total Motor Trucks.	(11) Motor Trucks Registered outside of Mass.	(12) Motor Buses.	(13) Total Motor Vehicles.	(14) REMARKS.
117	5A	Agawam . .	21	2,153	954	3,107	146	34	180	53	33	3,341	Connecticut-Mass. travel, Junction State and Town Rds.
205-A	10	Barnardston . .	11	751	533	1,284	37	39	76	9	6	1,377	Greenfield-Northfield Rd. near Northfield line. Sta. O.
205-B	5	Barnardston . .	6	619	728	1,347	31	55	86	22	3	1,442	Greenfield-Brattleboro, Vt., Rd. near Vermont line. Sta. 248.
203	10-5	Deerfield . .	14	1,565	952	2,517	104	130	234	13	25	2,790	Greenfield-Northampton Rd. near junction Rd. to Sunderland.
204	116	Deerfield . .	7	1,470	160	1,630	171	152	323	3	21	1,981	Sunderland-Amherst Rd. near junction Rd. to Greenfield.
120	5	Easthampton . .	26	4,007	1,108	5,115	215	332	547	21	15	5,703	Northampton-Holyoke Rd. at Mt. Tom junction.
519-A	21-109	Enfield . .	3	451	30	481	40	18	58	1	1	543	West of Enfield. Belchertown Road.
519-B	21	Enfield . .	1	349	17	366	32	17	49	1	1	417	North of Enfield. Greenwiche Road.
519-C	109	Enfield . .	1	359	22	381	34	17	51	—	1	434	East of Enfield. Ware Road.
118	5	Longmeadow . .	51	5,447	2,864	8,311	564	324	888	127	124	9,374	Conn.-Mass. travel near Springfield line.
453	109	Northampton . .	5	1,509	216	1,725	96	48	144	—	1	1,875	Northampton-Pittsfield Rd. Main's Hill-Sta. 32.

214	2	Orange . . .	10	1,700	707	2,407	102	104	206	9	13	2,636
115-A	116	South Hadley . .	10	2,787	127	2,914	175	375	550	3	2	3,476
500	10	Southwick . . .	13	1,491	911	2,402	112	85	197	30	12	2,624
122	20	Wilbraham . . .	52	4,121	1,653	5,774	268	186	454	23	46	6,326
Totals			231			39,761			4,043	315	304	44,339

DISTRICT 3.

123	20	East Brookfield	27	3,573	1,393	4,966	183	170	353	36	44	5,390
525-A	12	Winchendon . .	7	1,043	312	1,355	100	148	248	10	3	1,613
521	131	Dudley . . .	9	818	317	1,135	76	50	126	24	37	1,307
131-B	12	Oxford . . .	13	1,674	344	2,018	103	109	212	29	65	2,308
304-B	140	Grafton . . .	7	1,311	95	1,406	78	73	151	2	34	1,598
215-A	122A	Rutland . . .	5	443	41	484	23	23	46	1	9	544
520-A	32	Brimfield . . .	3	323	58	381	38	17	55	1	6	445
304-A	122	Grafton . . .	6	801	254	1,055	47	61	108	9	1	1,170
302	122	Uxbridge . . .	21	929	829	1,758	106	90	196	77	31	2,006
212	2	Lunenburg . . .	13	1,501	333	1,834	61	70	131	4	8	1,986
215	32	Barre . . .	4	854	150	1,004	35	30	65	3	2	1,075
310	20	Shrewsbury . .	44	4,722	1,059	5,781	346	336	682	24	83	6,590
131-A	124	Oxford . . .	12	1,499	93	1,592	69	55	124	3	59	1,787
520-B	131	Brimfield . . .	9	911	262	1,173	76	49	125	4	17	1,324
215-B	122	Rutland . . .	8	948	127	1,075	36	33	69	2	1	1,153
208	2	Westminster . .	23	1,695	493	2,188	153	87	245	4	24	2,480
525-B	32	Winchendon . .	6	1,273	208	1,481	151	91	242	5	22	1,751
Totals			217			30,686			3,178	238	446	34,527

Worcester-Springfield Rd. Main St. near R. R. Crossing.  
 Fitchburg-Fitzwilliam N. H. Rd. West of Winchendon Centre.  
 Mass.-Conn. travel near South-bridge line.  
 Junction Southbridge-Webster Rds. Webster travel.  
 Grafton to Milford. East of junction Route 122 and 140.  
 Rutland to Holden Rd. East of Baby Anne's Corner.  
 Brimfield to Ct. Rd., via Wales. South of Brimfield Centre.  
 Grafton to Uxbridge. South of junction. Route 122 and 140.  
 Mass.-Rhode Island travel. Near Millville line.  
 Fitchburg-Ayer Rd. Lunenburg Centre.  
 Worcester-Athol Rd. North of Barre Centre.  
 Boston-Worcester Rd. Shrewsbury Centre, opp. P. O.  
 Junction Southbridge-Webster Rds. Southbridge travel.  
 Brimfield-Sturbridge Rd. East of Brimfield Centre.  
 Rutland to Paxton Rd. East of Baby Anne's Corner.  
 Fitchburg-Gardner Rd. at Westminster Centre.  
 Templeton to Rindge, N. H., Rd. Northeastly of Winchendon Centre.



TRAFFIC COUNT OF MOTOR VEHICLES ON STATE HIGHWAYS — Continued.

DISTRICT 4.

(1) Station Number.	(2) Automobile Route Number.	(3) City or Town.	(4) Motor Cycles.	(5) PASSENGER AUTOMOBILES.			(8) MOTOR TRUCKS.			(11) Motor Trucks Registered outside of Mass.	(12) Motor Busses.	(13) Total Motor Vehicles.	(14) REMARKS.
				Registered in Mass.	Registered Outside of Mass.	Total Passenger Automobiles.	Small Trucks.	1 Ton or more.	Total Motor Trucks.				
306	135	Wellesley .	12	2,740	95	2,835	163	171	334	3	6	3,187	Boston-South Framingham Rd. Central St. at Natick line.
314-A	2	Concord, No. .	11	2,945	577	3,522	176	288	464	5	12	4,009	On Ayer Rd. West of Junction with Harvard Road.
315	2	Lexington, W. .	14	3,585	335	3,920	103	139	242	6	60	4,236	Middle St., near corner Waltham Street.
316	110	Chelmsford .	9	1,741	487	2,228	152	46	198	5	10	2,445	Littleton Rd., near Railroad Station.
319	3	Tyngsborough .	16	2,785	851	3,636	88	80	168	39	24	3,844	Nashua, New Hampshire Road, near Tyngsboro bridge.
320	3B	Tewksbury	13	2,252	98	2,350	186	124	310	8	1	2,674	Main Street, Tewksbury Center.
342	28	Medford-Somerville	33	3,872	82	3,954	461	529	990	8	32	5,009	Mythic Ave., at Medford line.
344	3	Winchester .	16	4,370	334	4,704	271	121	392	11	16	5,128	Lowell Rd., via Billerica. Cambridge Rd., North of Church Street.
345	20	Weston .	36	6,693	963	7,656	373	327	700	9	71	8,463	Weston Center. West of School Street.
351	119	Groton .	7	1,132	150	1,282	81	54	135	9	2	1,426	Townsend-New Hampshire Route at Pepperell line.
355	110	Dracut, So. .	15	2,567	466	3,033	195	120	315	19	2	3,365	At Methuen line.
356	20	Watertown .	40	8,019	537	8,556	536	595	1,131	9	76	9,803	Main St., at Waltham line.
530	2	Lexington, So. .	16	3,119	301	3,420	102	71	173	7	3	3,612	Summer Street. Near Arlington Town line.
Totals			238			51,096			5,552	138	315	57,201	

DISTRICT 5.

321	28	Andover .	27	4,464	363	4,827	158	389	547	12	17	5,418	Boston-Lawrence Rd., near No. Reading line.
324	125	West Newbury .	6	1,696	131	1,827	95	49	144	1	1	1,978	Newburyport-Haverhill Rd., at Post Office.
325	110	Amesbury .	21	4,462	461	4,923	227	145	372	41	9	5,325	Amesbury-Haverhill Rd., near Merrinac line.
328	1-A	Hamilton .	12	2,083	325	2,408	106	119	225	6	4	2,649	Beverly-Newburyport Rd., near Ipswich line.
331	127	Beverly .	24	5,333	481	5,814	314	192	506	1	42	6,386	Beverly-Manchester Rd., at Chapman's Corner.
334	114	Middleton .	14	1,928	146	2,074	113	84	197	6	6	2,291	Salem-Lawrence Rd. west of Middleton Center.
335	1-A	Salem .	15	5,191	400	5,591	272	323	595	4	4	6,205	Lynn-Salem Rd., Loring Ave., Paradise Rd.
336-A	1	Lynnfield .	51	5,318	1,066	6,384	149	270	419	22	39	6,893	Newburyport Turnpike south of junction with Wakefield-Peabody Rd.
340	107	Lynn .	38	7,323	288	7,611	563	731	1,294	10	21	8,964	Revere-Lynn Rd., Western Ave. at Fox Hill Bridge.
354	1	Newburyport .	45	6,379	2,063	8,442	284	159	443	25	39	8,969	Newburyport-Salisbury Rd. Mer-rinack River Bridge.
454	1	Ipswich .	27	3,832	1,195	5,027	57	96	153	16	35	5,242	Newburyport Turnpike at Linebrook Road.
522	1-A	Newbury .	8	1,793	528	2,321	65	55	120	3	15	2,464	Near Parker River Bridge.
547	133	Georgetown .	10	1,418	73	1,491	147	64	211	3	1	1,713	West of Georgetown Center.
548	1	Salisbury .	26	3,273	1,524	4,797	164	115	279	106	32	5,134	At New Hampshire line.
Totals			324			63,537			5,505	256	265	69,631	

DISTRICT 6.

349	-	Dover .	2	301	5	306	16	11	27			335	Needham-Dover Rd., near Needham line.
401-C	1	Wrentham .	23	2,647	1,739	4,386	117	200	317	117	63	4,789	Boston-Providence Rd., at Town Hall.
402	28	Randolph .	17	3,480	134	3,614	180	209	389	4	6	4,026	Boston-Brockton Rd., north of centre.
403	3A	Weymouth .	22	8,869	412	9,281	310	188	498	2	68	9,869	Quincy-Nantasket Rd., near Wessagussett Rd.
404	3A	Cohasset .	5	3,176	247	3,423	82	162	244	3	2	3,674	Quincy-Plymouth Rd., near Jerusalem Rd.
405-A	3	Weymouth, E. .	15	4,070	239	4,309	200	121	321	1	30	4,675	Jct. Plymouth-Bridgewater Rd. Inside Route, Plymouth travel.
405-B	102	Weymouth, So. .	4	2,781	36	2,817	211	158	369		2	3,192	Jct. Plymouth-Bridgewater Rd., Bridgewater travel.
410	101	Taunton, W. .	8	1,374	1,008	2,382	155	161	316	40	41	2,747	Taunton-Providence Rd., at Westville Vil.



## TRAFFIC COUNT OF MOTOR VEHICLES ON STATE HIGHWAYS—Concluded.

## DISTRICT 6—Concluded.

(1)	(2)	(3)	(4)	(5)			(6)			(7)			(8)			(9)			(10)	(11)	(12)	(13)	(14)
Station Number.	Automobile Route Number.	City or Town.	Motor Cycles.	PASSENGER AUTOMOBILES.			MOTOR TRUCKS.			Total Motor Trucks.	Registered outside of Mass.	Total Passenger Automobiles.	Small Trucks.	1 ton or more.	Total Motor Trucks.	Registered outside of Mass.	Motor Busses.	Total Motor Vehicles.					
				Registered in Mass.	Registered outside of Mass.	Total Passenger Automobiles.	Small Trucks.	1 ton or more.	Total Motor Trucks.														
411	138	Dighton, So.	9	2,126	304	2,430	235	171	406	16	25	2,870	Taunton-Fall River Rd., near Taunton line.										
413-A	6	Fall River	28	6,078	446	6,524	596	446	1,042	40	156	7,750	Brightman Street Bridge.										
414	6	Dartmouth	21	4,076	1,047	5,123	451	404	855	68	66	6,065	Fall River-New Bedford Rd., at Smith's Mills.										
415-A	140	Freetown .	8	1,335	123	1,458	75	67	142	2	1	1,609	New Bedford-Taunton Rd., near Webb's Corner.										
415-B	104	Freetown .	4	945	42	987	60	24	84	1	16	1,091	New Bedford-Middleboro Rd., near Webb's Corner.										
429-A	6	Seekonk, W.	4	572	789	1,361	122	201	323	206	6	1,694	Fall River Ave., near Taunton-Providence Rd.										
429-B	101	Seekonk, N.	19	1,519	1,853	3,372	397	466	863	354	46	4,300	Taunton-Providence Rd., near Fall River Ave.										
430	1	Attleboro .	40	3,261	3,393	6,654	134	281	415	255	166	7,275	At Sta. 206. Previously taken in 1912-15-21.										
436	-	Milton .	6	1,821	38	1,859	101	212	313	2	60	2,238	Boston-Brockton Granite Ave. Rd., at Boston line.										
502	1	Westwood.	41	4,856	1,786	6,642	181	544	725	98	65	7,473	Boston-Providence Rd., at Dedham line.										
517	138	Stoughton.	35	4,989	331	5,320	213	359	572	11	13	5,940	Washington St., near Central Street.										
523-A	140	Norton, So.	6	762	145	907	83	45	128	6	0	1,041	Norton-Taunton Rd., east of Junction. A new station.										
523-B	123	Norton, W.	7	1,203	154	1,357	74	54	128	3	1	1,493	Norton-Attleboro Rd., west of Norton Center.										
524	-	Holbrook .	6	1,965	40	2,005	182	122	304	3	1	2,316	Boston-Brockton Rd., near Brockton line. A new station.										
549	137	Medfield .	5	1,317	71	1,388	87	100	187	3	31	1,611	Corner of Main and Pleasant Street, Dedham-Medway Rds.										
Totals			335			77,905			8,968	1,235	865	88,073											

DISTRICT 7.

416	28	Bridgewater	14	3,857	119	3,976	113	170	283	2	19	4,292	Auburn St. and State Highway. Middleborough Rd.
417	28	Middleborough	13	3,416	446	3,862	54	71	125	3	23	4,023	Clark's Corner, south of Middle- borough.
418	3	Plymouth	1	1,504	381	1,885	43	34	77	1	8	1,971	Costello's Corner, Provincetown Rd.
419-A	6	Marion	7	2,323	468	2,791	154	121	275	4	5	3,078	Wareham-New Bedford. Junc- tion Main and Mattapoisett Rds.
420-C	3	Kingston	5	2,671	256	2,927	143	122	265	1	8	3,205	Kingston East, south of junction.
421	28	Falmouth	3	2,259	389	2,648	144	109	253	1	2	2,906	Bourne to Woods Hole Rd.
422	6	Sandwich	6	2,385	721	3,106	85	85	170	6	14	3,296	Westerly side of Sandwich Depot.
423	28	Mashpee	2	891	310	1,201	84	43	127	1	6	1,336	Woods Hole to Orleans Rd. Falmouth line.
426	28	Harwich	1	1,493	509	2,002	82	49	131	1	11	2,145	Hyannis to Orleans Rd.
428	6	Wellfleet	1	1,273	582	1,855	85	51	136	3	7	1,999	Plymouth to Provincetown Rds.
439	6-28	Wareham	11	4,840	825	5,665	197	251	448	3	18	6,142	Middleborough to Woods Hole Rd. Narrow Bridge.
440	-	Edgartown	3	829	363	1,192	90	20	110	2	18	1,323	Oak Bluffs-Edgartown Rd.
441	6	Barnstable	8	1,310	552	1,862	58	74	132	1	6	2,008	Plymouth-Provincetown Rd., near Yarmouth line.
Totals			75			34,972			2,532	29	145	37,724	



SUMMARY OF NUMBER OF MOTOR VEHICLES OF MASSACHUSETTS AND OF OUT-OF-STATE REGISTRATIONS INCLUDED IN TRAFFIC  
COUNT ON STATE HIGHWAYS.

*Average daily traffic, fourteen hours a day, for one week beginning Aug. 20, 1927.*

	DAILY AVERAGE COUNT FOR EACH DISTRICT.				PERCENTAGES OF MASSACHUSETTS AND OUT-OF-STATE REGISTRATION.			
	PASSENGER AUTOMOBILES.		MOTOR TRUCKS.		PASSENGER AUTOMOBILES.		MOTOR TRUCKS.	
	Mass. Registration.	Out-of-State Registration.	Mass. Registration.	Out-of-State Registration.	Mass. Registration.	Out-of-State Registration.	Mass. Registration.	Out-of-State Registration.
District No. 1	19,706	13,969	2,394	201	59%	41%	92%	8%
" 2	28,779	10,982	3,728	315	72%	28%	92%	8%
" 3	24,318	6,368	2,940	238	79%	21%	93%	7%
" 4	45,820	5,276	5,414	138	90%	10%	98%	2%
" 5	54,493	9,044	5,249	256	86%	14%	95%	5%
" 6	63,523	14,382	7,733	1,235	82%	18%	86%	14%
" 7	29,051	5,921	2,503	29	83%	17%	99%	1%
Totals for entire State	265,690	65,942	29,961	2,412	80%	20%	93%	7%

In addition to the traffic count made on State highways the Department made a count of motor vehicles passing certain stations on the boulevards and highways within the Metropolitan District at locations selected by the Division of Metropolitan Planning.

The results of this count are given on the following page.



TRAFFIC COUNT OF MOTOR VEHICLES ON CERTAIN HIGHWAYS IN THE METROPOLITAN DISTRICT.

Daily average number of motor vehicles passing designated points, or stations, during a period of fourteen hours each day for one week beginning Aug. 20, 1927, at 7 A.M.

(1) Station Number.	(2) Automobile Route Number.	(3) CITY OR TOWN.	(4) Motor Cycles.	PASSENGER AUTOMOBILES.			MOTOR TRUCKS.			(11) Motor Trucks Registered Outside of Mass.	(12) Motor Buses.	(13) Total Motor Vehicles.	(14) REMARKS.
				Registered in Mass.	Registered outside of Mass.	Total Passenger Automobiles.	Small Trucks.	1 Ton or more.	Total Motor Trucks.				
7A	3-23-138	Forest Hills .	52	14,012	369	14,381	11	-	11	-	2	14,446	Forest Hills, Arborway, through traffic.
7B	-	Forest Hills .	6	1,733	32	1,765	7	1	8	-	-	1,779	Forest Hills, Arborway, south traffic to and from Hyde Park and Roslindale.
11	3	East Milton .	23	8,395	461	8,856	344	197	541	2	100	9,520	Adams St., southeast of railroad crossing.
5	2-3	Arlington .	41	9,288	777	10,065	737	578	1,315	35	53	11,474	Arlington, Mass. Ave., between Alewife Brook and Arl.
12	-	Dorchester .	56	16,354	258	16,612	553	936	1,489	9	37	18,194	Dorchester, Neponset Ave., at Neponset Bridge.
8	2	Hyde Park .	19	2,186	11	2,197	113	107	220	1	92	2,528	Hyde Park, River St., near Railroad Bridge.
2	28	Medford .	122	16,401	1,344	17,745	29	8	37	1	1	17,905	Revere Beach Parkway.
2A	28-1	Medford .	189	25,223	1,477	26,700	444	511	955	6	20	27,864	Fellaway, south of Revere Beach Parkway.
2B	1	Medford .	126	15,309	531	15,840	138	9	147	3	2	16,115	Parkway, north of Revere Beach Parkway.
1	20-A	Newton .	17	4,627	287	4,914	121	67	188	1	7	5,126	Commonwealth Ave., east of Washington Street.
1A	-	Newton .	7	3,815	83	3,898	311	239	550	1	3	4,458	Washington Street, south of Commonwealth Ave.
9	138-3-28	Milton .	67	22,216	706	22,922	933	860	1,793	6	80	24,862	Blue Hill Ave., at Mattapan Bridge.
10	-	Milton .	11	4,140	118	4,258	278	250	528	2	4	4,801	Adams Street, at Milton Lower Mills.
		Totals .	736			150,153			7,782	67	401	159,072	

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN  
THE PUBLIC VIEW.

(Sections 29-33, chapter 93, General Laws, as amended.)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, the Division of Highways was directed to make rules and regulations for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, and on January 24, 1924, the Division adopted new rules and regulations, superseding all former issues, which were contained in the report for 1924, and have continued in force during the present year.

*Applications, Licenses and Permits.* — Licenses were granted to 40 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 455 applications received for permits for the erection of advertising signs, 314 permits were granted; also 36 permits were granted on applications filed previous to 1927. Eighty-six applications for the erection of new signs were not approved, because the locations were in violation of the rules and regulations adopted Jan. 24, 1924. A total of 44 applications for permits were cancelled.

A total of 2,029 renewal applications were sent to those whose permits were to expire June 30, 1927, and of this number 1,869 were returned to the Department requesting renewal; 139 requested that the permits be cancelled; and 1 returned application was not approved, because the location did not conform to the rules and regulations. The number of renewal applications approved to be in force until June 30, 1928, was 1837. The total number of permits in force November 30, 1927, was 2,076.

*Receipts and Expenditures.* — The total receipts for the year ending Nov. 30, 1927, were \$12,661.71 and the expenditures for the same period were \$6,723.37.

*Removal of Signs.* — A large number of signs have been removed as usual, because they were located within the layouts of State highways. Thousands of illegal signs on private property visible from the main highways were removed by the Department under the provisions of Section 30-A, chapter 93, General Laws, or by owners of property or signs, after the inspectors had explained the law relating to such signs. Two individuals were prosecuted, convicted of violating certain sections of the Rules and Regulations, and each fined \$50.00.

On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, Division of Highways, for the Commonwealth of Massachusetts, and each of them, their agents, servants, representatives and attorneys, until the further order of the Court from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in court.

*Hearings.* — Hearings were granted to officials of Brookline, Easthampton, Everett, and Wakefield, who had objected to the granting of permits for advertising signs in their respective cities or towns.

## SALE OF MAPS.

Under authority of section 1, chapter 81, General Laws, as amended by section 1, chapter 57, Acts of 1923, 38 copies of the road map of Massachusetts, edition of 1922, and 731 of the 1926 edition, and 634 copies of the 1927 edition of the Automobile Route Map of Massachusetts have been sold during the year ending Nov. 30, 1927, for which \$360.25 was received and paid into the treasury of the Commonwealth.



## CONTRACT PRICES DEC. 1, 1926, TO NOV. 30, 1927.

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Ma- sonry (cu. yd.).	BIT. SUR- FACE.		Cone. Surf. (cu. yd.).
		Earth (cu. yd.).	Borrow (cu. yd.).	Ledge (cu. yd.).		Asphalt (gal.).	Tar (gal.).	
Acton . . .	Greenough Const. Co. . . .	\$1 00	\$1 00	\$4 00	\$20 00	\$0 13	-	-
Agawam . . .	D. O'Connell's Sons, Inc. . . .	0 85	-	3 00	22 00	0 125	-	-
Amesbury . . .	J. E. Watkins & Co. . . .	0 95	1 00	3 00	18 00	0 14	-	-
Ashburnham- Westminster . . .	H. & J. P. Green Co. . . .	0 85	-	1 00	23 00	0 145	-	-
Ashburnham . . .	Guaranty Const. Co. . . .	0 70	0 90	7 50	20 00	0 145	-	-
Attleborough . . .	C. Bianchi & Co., Inc. . . .	0 80	-	2 50	25 00	0 131	-	\$10 50
Ayer . . .	R. H. Newell Co. . . .	0 85	-	6 00	25 00	0 135	-	-
Ayer and Shirley . . .	R. H. Newell Co. . . .	0 75	0 75	6 00	20 00	0 145	-	-
Barnstable . . .	William A. Jones . . . .	1 30	0 65	8 00	18 00	0 20	-	-
Barnstable and Yarmouth . . .	Antonio Carehia & Sons . . .	0 65	0 85	01	22 00	0 13	-	-
Becket and Otis . . .	B. Perini & Sons . . . .	0 75	0 75	3 00	20 00	-	0 16½	-
Bellingham . . .	W. H. Hinman, Inc. . . .	0 65	-	3 00	20 00	-	0 11	-
Bellingham- Blackstone . . .	E. L. Gobeile, Inc. . . .	0 80	-	2 50	25 00	0 16	-	-
Bernardston, Gill and Northfield . . .	C. Bianchi & Co., Inc. . . .	0 50	0 58	3 00	25 00	0 13	-	-
Beverly . . .	Octavius Menici . . . .	1 25	-	3 00	-	0 135	-	-
Beverly . . .	Octavius Menici . . . .	0 85	1 00	5 00	20 00	0 125	-	-
Beverly . . .	Octavius Menici . . . .	3 00	-	3 00	-	0 13	-	-
Billerica . . .	J. A. Gaffey & Son . . . .	1 00	-	2 50	-	0 135	-	-
Blackstone . . .	Matthew L. Sullivan . . . .	1 00	-	5 00	20 00	0 12	-	-
Bolton-Lancaster . . .	Curtis-Quillan Co. . . .	1 10	0 90	5 00	-	0 20	-	-
Boylston . . .	Catanese Const. Co. . . .	0 80	-	3 00	20 00	0 16	-	-
Braintree . . .	E. C. Sargent . . . .	0 70	-	3 00	-	0 125	-	-
Braintree-Quincy . . .	Lawton Const. Co. . . .	0 80	-	3 00	30 00	0 14	-	-
Brockton . . .	C. Bianchi & Co., Inc. . . .	0 90	-	3 50	25 00	0 135	-	-
Buckland . . .	Kelleher Corp. . . .	0 85	0 70	2 50	25 00	0 13	-	-
Canton . . .	Reynolds Bros., Inc.. . . .	1 10	-	6 00	-	0 14	-	-
Canton . . .	Powers Bros. . . .	0 70	-	3 00	-	0 14	-	-
Canton-Milton . . .	J. Susi & Bro. . . .	1 50	-	1 50	20 00	0 14	-	-
Charlton . . .	Frank Lanza & Son . . . .	0 92	0 92	0 92	18 00	0 14	-	-
Chatham . . .	Lane Const. Corp.. . . .	0 50	0 50	0 60	25 00	0 20	-	-
Chelmsford . . .	Antonio Pallatto . . . .	0 90	-	1 50	25 00	0 15	-	-
Clarksburg . . .	B. Perini & Sons . . . .	0 90	-	3 00	23 00	0 145	-	-
Danvers . . .	Iafolla & Shields Const. Co. . . .	0 75	0 75	2 80	20 00	0 13	-	-
Deerfield . . .	Charles E. Horne . . . .	0 60	0 60	3 00	22 00	0 13	-	-
Dover . . .	Greenough Const. Co. . . .	0 75	0 75	3 00	20 00	0 12	-	-
Dover-Medfield . . .	Edward O'Toole . . . .	0 65	0 80	3 00	-	0 13	-	-
Dover-Needham . . .	Alberthaw Const. Co. . . .	-	-	9 50	-	0 80	-	-
Dracut . . .	Antonio Pallatto . . . .	0 75	0 75	1 50	20 00	0 15	-	-
Duxbury-Kingston . . .	Lawton Const. Co. . . .	0 70	-	0 70	20 00	0 155	-	-
East Bridgewater . . .	Powers Bros. . . .	0 65	0 75	5 00	20 00	-	-	-
East Bridgewater- Whitman . . .	Powers Bros. . . .	0 60	0 90	3 00	16 00	0 13	-	-
East Longmeadow . . .	Lane Const. Corp.. . . .	0 90	-	5 00	25 00	0 13	-	-
Falmouth . . .	Sidney W. Lawrence . . . .	0 70	-	3 00	20 00	0 20	-	-
Fitchburg- Lunenburg . . .	Fitchburg Concrete Const. Co. . . .	0 70	-	2 00	16 00	0 14	-	-
Florida-North Adams . . .	Lane Const. Corp. . . .	1 10	1 00	3 00	25 00	0 165	-	-
Franklin- Wrentham . . .	C. E. Horne . . . .	0 75	-	4 00	20 00	0 13	-	-
Freetown . . .	Iafolla Const. Co. . . .	0 70	1 10	4 00	20 00	0 15	-	-
Gay Head . . .	Corr and Russell . . . .	0 90	0 90	2 50	25 00	0 20	-	-
Gill . . .	Warner Bros. . . .	0 73	-	2 00	20 00	0 20	-	-
Gloucester and Rockport . . .	New Haven Road Const. Co. . . .	1 00	0 90	3 25	25 00	0 135	-	-
Granby . . .	Kelleher Corp. . . .	-	-	5 00	-	-	-	-
Granby and South Hadley . . .	Kelleher Corp. . . .	0 80	-	0 80	22 00	0 14	-	-
Granville- Southwick . . .	Kelleher Corp. . . .	1 00	-	2 45	30 00	-	0 20	-
Great Barrington . . .	John F. Donahue . . . .	0 90	0 80	2 50	20 00	-	-	-
Groveland . . .	B. Perini & Sons. . . .	0 80	-	2 50	25 00	0 145	-	-
Hadley . . .	Gleason Bros., Inc. . . .	0 70	0 70	3 00	22 00	0 13	-	-
Hamilton- Wenham . . .	Welch & Moynihan . . . .	0 90	1 10	3 50	20 00	0 135	-	-
Hanson . . .	Otis R. Mann . . . .	0 75	-	4 00	20 00	0 20	-	-
Harvard . . .	C. E. Horne . . . .	1 00	-	2 50	25 00	-	0 15	-
Harwich . . .	Lane Const. Corp.. . . .	0 25	0 25	0 25	30 00	0 20	-	-
Haverhill- North Andover . . .	Thos. J. McCue Const. Co. . . .	0 80	2 00	6 00	18 00	0 135	-	-
Holden . . .	New Haven Road Const. Co. . . .	1 00	-	3 00	25 00	0 15	-	-
Holden-Worcester . . .	New Haven Road Const. Co. . . .	0 90	0 90	2 50	25 00	0 13	-	-

CONTRACT PRICES DEC. 1, 1926, TO NOV. 30, 1927.

Broken Stone (ton).	PIPE CULVERT (lin. ft.).							Fencing (lin. ft.).	Stone Filling (cu. yd.).	Bounds (each).	Catch Basins (each).	Reinf. Conc. Ma- sonry (cu. yd.).	Gravel Borrow (cu. yd.).
	CLAY.			REINF. CONCRETE.									
	10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
\$2 90	-	\$0 50	-	\$1 00	-	-	\$3. 00	\$0 50	-	-	\$70 00	\$40 00	\$1 00
2 40	\$0 55	0 70	-	1 50	\$2 00	\$2 25	-	-	\$2 40	-	67 00	-	1 25
2 90	-	1 00	-	1 50	-	2 10	3 00	0 70	-	\$5 00	75 00	20 00	1 00
3 30	-	-	-	1 50	-	2 30	4 00	0 55	2 30	5 00	90 00	30 00	0 90
3 30	-	1 00	-	1 50	-	2 50	3 50	-	2 10	-	90 00	30 00	1 10
3 15	1 25	1 35	\$1 65	-	-	3 00	-	0 75	-	6 00	80 00	35 00	0 90
2 90	0 60	0 70	-	-	-	-	-	-	-	-	75 00	30 00	0 90
3 00	-	0 70	-	1 55	1 80	2 30	-	0 60	-	5 00	85 00	30 00	0 90
-	0 55	0 65	0 80	1 70	-	-	-	0 70	-	4 00	80 00	20 00	0 60
-	-	-	-	1 70	-	4 00	-	1 00	-	-	-	25 00	-
2 40	-	0 75	-	-	-	-	3 00	0 58	2 25	5 00	80 00	25 00	-
-	-	0 60	1 00	1 30	-	-	3 00	0 65	-	-	-	40 00	0 85
2 70	0 45	0 55	0 70	-	1 50	-	3 75	0 60	-	-	85 00	-	0 95
3 05	0 65	0 70	0 75	1 50	-	-	3 25	0 70	2 35	6 00	80 00	30 00	1 00
2 35	1 75	-	-	-	-	-	-	-	-	-	75 00	-	1 75
2 40	0 70	0 99	-	1 35	-	3 00	-	0 70	-	-	75 00	25 00	1 10
2 50	-	2 00	-	-	-	-	-	1 00	-	10 00	100 00	-	1 40
2 50	0 55	-	-	-	-	-	-	-	-	-	85 00	-	1 37
-	0 25	-	-	1 25	-	1 25	-	-	2 00	-	75 00	20 00	1 00
3 25	-	-	-	-	-	-	-	0 70	-	-	-	25 00	1 00
2 80	-	0 55	-	1 40	-	2 50	-	-	2 20	-	80 00	25 00	0 90
3 00	1 25	1 40	1 60	3 00	-	-	1 75	0 65	2 25	-	70 00	-	0 90
3 20	-	1 35	1 65	-	-	3 00	-	0 60	-	7 00	100 00	40 00	1 20
2 95	0 50	0 60	-	1 25	-	2 00	3 50	0 75	-	6 00	80 00	35 00	1 30
3 25	-	-	-	-	-	-	-	0 55	3 00	5 00	75 00	25 00	0 70
3 00	0 45	0 60	-	-	1 00	1 50	-	0 75	-	-	-	-	1 25
3 00	0 50	0 55	0 65	-	2 00	-	-	0 65	-	-	75 00	20 00	1 10
3 00	-	0 69	-	1 45	-	2 40	3 50	0 60	2 25	5 00	75 00	28 00	1 10
-	1 50	-	-	2 00	-	-	-	0 55	-	-	90 00	-	0 92
2 60	1 00	1 00	1 35	-	-	-	-	0 80	-	-	85 00	-	-
3 45	-	0 85	0 85	-	-	-	-	-	-	10 00	85 00	30 00	1 25
2 60	-	-	-	-	-	-	-	0 70	1 75	-	-	25 00	0 85
2 35	0 60	0 70	1 25	1 50	-	2 50	4 00	0 85	2 15	5 00	75 00	28 00	0 90
2 75	0 50	-	-	1 00	-	1 50	-	0 50	-	-	60 00	25 00	0 90
3 00	0 90	-	-	1 00	2 00	-	-	0 70	-	-	75 00	-	0 95
-	-	-	-	-	-	-	-	0 80	-	-	-	34 00	1 30
2 25	-	1 10	-	1 50	2 00	2 00	-	0 65	-	-	90 00	-	1 25
3 45	0 50	0 60	1 00	1 50	-	-	-	0 60	-	-	80 00	30 00	0 85
-	-	-	-	-	-	-	-	0 60	-	-	75 00	28 00	0 90
2 90	0 40	0 50	-	1 25	1 75	2 00	3 00	0 60	-	-	65 00	20 00	0 90
2 70	0 70	0 80	0 95	1 25	-	-	-	0 55	0 75	5 00	75 00	25 00	1 10
4 00	1 00	1 25	1 50	2 00	-	3 50	-	0 70	-	-	70 00	35 00	1 15
3 30	-	0 70	1 15	1 45	-	3 00	3 75	0 50	2 25	5 00	75 00	25 00	0 85
3 70	-	1 00	-	-	-	-	-	0 60	2 85	6 00	-	30 00	2 65
2 90	0 60	0 70	1 30	1 50	2 50	2 75	4 00	0 50	-	5 00	75 00	30 00	0 75
3 45	0 65	0 70	-	-	-	-	-	1 00	2 25	-	75 00	28 00	1 05
-	-	-	-	-	-	-	-	0 60	-	5 00	-	-	-
-	0 50	0 65	-	-	-	-	-	0 50	2 25	-	-	25 00	0 90
2 40	-	0 75	-	1 50	2 00	2 50	4 00	-	-	10 00	90 00	-	1 65
-	-	-	-	-	-	-	-	0 75	-	-	-	28 00	1 20
2 35	0 50	0 55	0 95	1 50	1 75	-	3 50	0 50	2 70	5 00	70 00	25 00	1 20
3 25	-	-	-	-	-	-	-	0 60	1 00	-	-	30 00	1 50
-	-	-	-	-	-	-	-	0 70	2 00	-	-	25 00	0 90
3 00	-	-	-	1 75	-	-	-	0 60	-	-	95 00	-	0 80
-	0 50	0 50	-	1 50	1 75	2 50	3 25	0 55	2 25	-	-	25 00	0 80
2 50	-	0 75	-	1 25	-	-	-	0 70	-	-	70 00	-	1 10
-	-	-	-	-	-	-	-	0 50	-	-	75 00	-	0 80
3 25	-	-	-	-	-	2 00	-	-	2 25	-	-	30 00	1 25
-	0 75	1 00	1 25	1 25	-	-	-	0 70	-	5 00	85 00	-	2 00
2 55	2 00	1 50	2 00	2 50	3 00	-	-	0 60	2 00	-	80 00	-	1 37
-	-	-	-	2 00	-	-	4 50	-	2 50	-	-	-	1 10
3 30	-	0 80	-	1 50	-	2 50	4 50	-	2 85	5 00	90 00	28 00	1 25



CONTRACT PRICES DEC. 1, 1926, TO NOV. 30, 1927 — *Concluded.*

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.			Plain Conc. Ma- sonry (cu. yd.).	BIT. SUR- FACE.		Conc. Surf. (cu. yd.).
		Earth (cu. yd.).	Borrow (cu. yd.).	Ledge (cu. yd.).		Asphalt (gal.).	Tar (gal.).	
Holyoke . . .	D. O'Connell's Sons, Inc. . . .	\$0 85	—	\$3 00	—	—	—	\$10 00
Huntington . . .	Adams & Ruxton Const. Co. . . .	0 75	—	5 00	\$20 00	\$0 25	—	—
Ipswich . . .	J. E. Watkins & Co. . . .	0 85	\$1 00	3 00	20 00	0 11	—	—
Lakeville . . .	Z. L. Canedy . . .	0 85	1 25	5 00	15 00	0 15	—	—
Lee . . .	B. Perini & Sons . . .	1 00	0 60	3 00	25 00	—	\$0 16	—
Lenox-Pittsfield . . .	Lane Const. Corp. . . .	1 00	1 00	3 00	21 00	0 17	—	10 00
Lunenburg . . .	All bids rejected . . .	—	—	—	—	—	—	—
Malden-Medford . . .	F. J. McCarthy Const. Co. . . .	0 65	0 80	3 00	20 00	0 12	—	10 60
Marlborough . . .	Greenough Const. Co. . . .	1 00	—	4 00	—	0 13	—	—
Marlborough . . .	Thos. J. McCue Const. Co. . . .	0 80	—	4 00	—	0 14	—	10 50
Medford- Somerville . . .	J. H. Fannon . . .	0 90	—	2 00	20 00	0 125	—	11 00
Medway . . .	Phipps Bros. . . .	0 75	—	2 00	—	0 13	—	—
Millis . . .	Phipps Bros. . . .	0 75	0 75	2 00	20 00	0 13	—	—
Milton . . .	Lawton Const. Co. . . .	0 65	—	0 65	20 00	0 12	—	—
Monson . . .	New Haven Rd. Const. Co. . . .	1 25	0 85	1 25	24 00	0 135	—	—
Nantucket . . .	M. F. Roach & Sons, Inc. . . .	0 90	—	5 00	25 00	0 25	—	—
Needham . . .	Reynolds Bros., Inc. . . .	1 25	—	5 00	25 00	0 14	—	—
New Braintree . . .	Hudson Const. Co. . . .	0 80	0 80	3 00	30 00	0 12	—	—
Newbury . . .	R. G. Watkins . . .	0 90	1 00	4 00	18 00	0 11	—	—
Northampton- Williamsburg . . .	Kelleher Corp. . . .	0 85	—	2 50	25 00	0 125	—	—
Orleans-Eastham . . .	Lane Const. Corp. . . .	0 40	0 50	3 00	25 00	0 20	—	—
Oxford-Sutton . . .	Catanese Const. Co. . . .	0 65	1 25	0 65	18 00	0 16	—	—
Pepperell . . .	J. F. Rooney . . .	0 90	0 75	3 00	23 00	0 11	—	—
Pittsfield . . .	Hampden Const. Co. . . .	0 90	1 00	4 00	25 00	0 14	—	—
Plymouth . . .	Amos D. Bridges' Sons, Inc. . . .	0 47	—	3 00	20 00	0 20	—	—
Plympton . . .	Washburn & Sheridan Const. Co. . . .	0 90	0 80	5 00	20 00	0 20	—	—
Princeton . . .	A. D. Pasquale . . .	0 90	—	3 50	15 00	0 12	—	—
Quincy . . .	Paul Caputo . . .	0 90	1 10	4 00	20 00	0 14	—	—
Raynham- Taunton . . .	Greany & Sherry . . .	0 80	—	5 00	20 00	0 13	—	10 00
Rehoboth . . .	Iafolla & Shields . . .	0 70	0 70	4 00	—	—	0 15	—
Richmond . . .	Hampden Const. Co. . . .	1 00	0 90	1 00	25 00	0 15	—	—
Russell . . .	Lane Const. Corp. . . .	0 80	0 80	2 50	21 00	0 13	—	—
Russell-Westfield . . .	Kelleher Corp. . . .	0 75	1 00	3 00	22 00	0 145	—	—
Rutland . . .	Guaranty Const. Co. . . .	0 85	—	8 00	20 00	0 14	—	—
Salem . . .	W. F. Duffee & Co. . . .	1 00	—	4 50	18 00	—	—	11 66
Sandisfield . . .	C. I. Hosmer . . .	1 00	0 85	3 00	25 00	0 20	—	—
Saugus . . .	M. McDonough Co. . . .	0 90	—	4 50	30 00	0 12	—	—
Savoy . . .	Warner Bros. . . .	0 85	—	2 00	—	—	—	—
Seekonk . . .	Lane Const. Corp. . . .	0 90	—	3 00	25 00	0 12	—	8 60
Seekonk . . .	Atwood-Thomas Const. Co. . . .	—	—	5 00	23 00	—	—	—
Sharon . . .	Taylor Const. Co. . . .	0 75	—	2 50	—	0 15	—	—
Shirley . . .	Fitchburg Conc. Const. Co. . . .	0 65	1 25	1 50	15 00	0 15	—	—
Somerset . . .	Hudson Const. Co. . . .	0 75	—	3 00	—	0 14	—	—
Southborough . . .	Catanese Const. Co. . . .	0 85	—	2 00	18 00	0 16	—	—
Spencer . . .	James J. McHugh . . .	0 75	0 75	3 50	20 00	0 15	—	—
Stoughton . . .	Powers Bros. . . .	0 90	—	3 00	—	0 14	—	—
Swansea . . .	Joseph McCormick . . .	0 80	0 90	3 00	25 00	0 12	—	9 00
Taunton . . .	Greany & Sherry . . .	0 80	—	5 00	20 00	0 13	—	10 15
Taunton . . .	Joseph McCormick . . .	0 80	—	3 50	22 00	0 13	—	10 50
Templeton . . .	Long, Cross & Burnham . . .	0 80	0 90	3 00	18 00	0 135	—	—
Templeton . . .	C. B. Lindholm . . .	—	1 50	5 00	—	—	—	—
Walpole . . .	Washburn & Sheridan Const. Co. . . .	0 90	1 25	5 00	—	—	0 14	—
Ware-West Brookfield . . .	Arute Bros., Inc. . . .	0 75	0 85	2 00	25 00	0 15	—	—
West Boylston . . .	James J. McHugh . . .	1 00	—	4 00	—	0 15	—	—
West Bridgewater . . .	M. F. Roach & Sons, Inc. . . .	0 75	—	5 00	20 00	—	0 14	—
Weston . . .	Taylor Const. Co. . . .	1 00	0 75	5 00	30 00	0 13	—	—
Westport . . .	Callan Const. Co. . . .	0 80	0 80	2 75	17 00	0 13	—	9 40
West Springfield . . .	Lane Const. Corp. . . .	0 20	0 75	3 00	25 00	0 14	—	—
West Stockbridge . . .	S. W. Menaquale . . .	1 50	1 80	3 50	—	0 25	—	—
Weymouth . . .	W. H. Hinman . . .	0 90	—	4 00	25 00	0 13	—	—
Weymouth . . .	Powers Bros. . . .	0 60	—	3 00	16 00	0 13	—	—
Wilbraham . . .	Adams & Ruxton Const. Co. . . .	0 95	1 05	4 00	25 00	0 17	—	10 75
Wilmington- Woburn . . .	Lawton Const. Co. . . .	0 70	—	2 50	20 00	0 13	—	—
Winchester . . .	Octavius Menici . . .	0 90	—	3 00	25 00	0 13	—	—
Wrentham . . .	Perini & Ampollini . . .	1 00	—	5 00	25 00	0 12	—	—

CONTRACT PRICES DEC. 1, 1926, TO NOV. 30, 1927 — *Concluded.*

Broken Stone (ton).	PIPE CULVERT (lin. ft.)							Fencing (lin. ft.).	Stone Filling (cu. yd.).	Bounds (each).	Catch Basins (each).	Reinf. Conc. Ma- sonry (cu. yd.).	Gravel Borrow (cu. yd.).
	CLAY.			REINF. CONCRETE.									
	10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
-	-	-	-	-	-	-	-	-	-	-	-	-	\$0 85
-	-	-	-	\$1 75	-	-	-	\$0 75	\$2 25	\$5 00	-	-	0 85
-	-	-	-	2 00	-	-	-	0 70	-	-	\$75 00	-	1 00
\$3 50	-	-	-	-	-	-	-	0 75	-	-	-	-	0 90
3 00	-	\$0 85	-	-	-	-	-	0 55	2 10	-	100 00	30 00	1 55
3 50	-	0 85	\$1 00	1 25	-	\$2 00	\$3 25	0 55	2 50	-	75 00	25 00	1 55
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 30	-	0 60	-	-	-	-	-	-	-	-	60 00	-	0 95
3 00	\$0 50	0 60	-	-	-	-	-	-	-	-	60 00	-	1 00
3 15	1 00	1 00	-	-	-	-	-	-	-	-	70 00	-	1 20
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 35	0 55	0 65	-	-	-	-	-	0 65	-	-	70 00	18 50	1 25
3 10	0 50	0 60	0 70	-	-	-	3 25	-	2 00	-	75 00	-	0 80
3 10	-	-	-	1 50	-	-	3 25	0 60	2 00	-	-	20 00	0 75
2 70	0 45	0 55	1 00	1 25	\$1 65	-	-	0 55	-	5 00	75 00	-	0 85
3 05	-	-	-	1 75	-	2 50	4 00	0 55	2 25	5 00	90 00	28 00	1 10
-	-	-	-	-	-	-	-	1 00	-	-	-	-	-
3 00	0 55	0 65	-	-	-	-	-	0 60	-	-	90 00	-	1 00
-	-	-	-	1 00	-	1 50	-	-	2 00	-	-	-	1 00
-	-	1 00	-	-	-	-	-	-	-	-	75 00	20 00	1 00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 80	0 60	0 70	1 10	1 15	2 00	2 25	3 50	0 50	2 20	5 00	70 00	25 00	1 15
-	-	-	-	1 25	-	2 00	-	-	-	5 00	85 00	-	-
2 90	-	0 80	-	1 50	-	2 50	3 50	0 55	2 00	-	85 00	25 00	0 90
-	0 80	-	-	1 20	-	1 60	2 90	0 60	-	-	70 00	34 00	1 20
3 00	-	-	-	-	-	-	-	0 80	-	5 00	-	35 00	1 20
-	-	-	-	1 25	-	-	-	0 55	-	5 00	90 00	25 00	-
-	-	-	-	-	-	-	-	1 00	-	-	-	-	0 80
-	-	-	-	1 40	-	2 35	3 50	-	12 10	-	-	25 00	1 10
2 75	1 00	1 10	1 25	-	3 25	-	4 00	0 60	-	5 00	100 00	20 00	1 20
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 20	1 00	1 20	1 50	1 75	2 50	-	-	0 80	-	5 00	75 00	50 00	1 00
3 00	-	-	-	-	-	-	4 75	-	2 20	-	-	-	1 05
3 00	-	-	-	-	-	-	5 00	0 70	-	7 00	-	30 00	1 00
2 40	-	0 75	-	1 25	-	2 00	3 00	0 55	2 50	6 00	75 00	25 00	0 85
2 30	0 85	0 85	1 15	2 00	2 25	-	3 50	0 55	3 00	5 00	75 00	35 00	1 00
3 50	-	-	-	2 00	-	-	-	-	2 50	-	-	-	1 50
-	-	-	-	1 28	-	-	-	-	-	-	70 00	-	1 00
-	-	-	-	-	-	3 00	4 50	0 70	2 50	5 00	-	32 00	1 25
2 10	-	-	-	2 00	-	3 50	-	-	-	-	60 00	30 00	1 00
-	-	-	-	-	-	-	-	-	2 50	-	-	30 00	-
3 45	1 25	1 25	-	2 00	-	3 25	4 25	0 55	-	5 00	80 00	30 00	0 90
-	-	-	-	-	-	-	-	0 75	-	-	-	31 00	1 50
2 95	0 60	-	-	-	-	-	-	0 60	1 00	-	80 00	-	1 25
3 50	-	-	-	1 50	-	-	3 75	0 50	-	-	-	20 00	0 85
3 35	0 50	-	1 00	-	-	-	-	-	1 95	-	90 00	-	1 20
3 10	-	-	-	1 40	-	2 40	3 50	-	2 00	-	-	21 00	0 85
3 00	0 40	-	-	-	-	-	-	0 60	2 00	-	75 00	27 00	0 75
3 00	0 40	-	-	-	-	-	-	0 60	2 50	-	80 00	-	0 90
2 75	0 55	0 75	1 00	1 45	2 50	3 00	-	0 55	-	5 00	80 00	25 00	0 90
3 50	-	0 65	-	-	-	-	-	-	-	-	80 00	-	1 00
3 35	0 60	0 65	-	1 50	-	-	-	0 60	-	5 00	80 00	25 00	1 00
3 15	-	0 70	-	2 00	-	2 75	3 25	0 60	2 15	-	75 00	27 00	1 10
-	-	-	-	-	-	-	-	1 00	-	-	-	35 00	2 00
2 35	1 00	-	-	-	-	2 50	-	0 75	3 00	-	75 00	-	1 00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 20	-	-	-	2 00	-	3 30	5 00	0 60	2 25	-	-	35 00	0 85
2 90	-	-	-	-	-	-	-	0 75	-	-	-	-	0 90
1 60	-	-	-	-	-	-	-	-	-	-	75 00	-	0 80
2 75	-	0 65	-	1 35	-	-	-	0 60	-	-	75 00	-	1 00
3 50	0 60	0 70	1 00	1 20	-	2 00	3 25	0 60	-	5 00	75 00	18 00	1 10
2 25	-	-	-	1 50	-	2 50	-	0 55	1 75	5 00	100 00	28 00	1 40
3 50	-	-	-	-	-	-	-	0 60	2 75	-	75 00	30 00	2 00
2 75	1 25	1 35	1 50	2 00	2 50	-	-	1 00	-	5 00	80 00	40 00	1 10
2 65	0 40	0 50	0 80	1 25	-	2 00	3 00	0 60	-	-	75 00	20 00	0 90
3 50	1 05	1 20	-	2 20	-	-	-	0 70	-	5 00	75 00	35 00	1 35
-	-	-	-	-	-	-	-	-	-	-	-	-	-
2 25	0 50	0 60	-	1 25	-	-	-	0 60	-	5 00	75 00	25 00	0 80
2 30	-	1 75	-	2 50	3 00	-	5 00	0 75	-	-	65 00	-	1 25
3 15	0 50	0 60	0 85	1 50	-	2 50	-	0 50	-	-	80 00	-	0 70



REGISTRY OF MOTOR VEHICLES.

The work of the Registry of Motor Vehicles exceeded, in some respects, the work of the previous year, but the number of registrations was less than in 1926. The Registrar continued to bring to the attention of the motoring public the necessity for careful driving in the endeavor to safeguard motorists and pedestrians on the highways.

The outstanding figures for the year are as follows: —

Registrations and number plates issued (passenger and commercial cars and motor cycles)	826,948
Licenses to operate issued	814,094
Examinations of applicants for licenses	144,403
Cash receipts	\$12,689,315.47
Licenses and registrations revoked and suspended	31,252
Licenses revoked for driving under influence of liquor	4,983
Offenders prosecuted in courts	852

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS.

The number of deaths caused by motor vehicles in 1927 was 693, a decrease of 12, as compared with the number during the previous year. The number of persons killed and injured in motor vehicle accidents in 1926 and 1927 was as follows: —

MOTOR VEHICLE ACCIDENTS TO PERSONS.

	PERSONS KILLED.		PERSONS INJURED.	
	1926.	1927.	1926.	1927.
Pedestrians by autos	455	421	14,260	15,365
Pedestrians by motor cycles	0	4	11	11
Pedestrians near street cars	11	11	10	43
Occupants of autos	166	182	9,544	14,629
Occupants of autos at railroad crossings	24	19	—	69
Occupants of motor cycles	19	32	414	396
Bicycle riders	16	8	690	634
Occupants of carriages, etc.	5	6	227	293
Coasters	9	10	195	281
Totals	705	693	25,351	31,721

	CHILDREN KILLED.		CHILDREN INJURED	
	1926.	1927.	1926.	1927.
Boys	160	153	5,253	5,979
Girls	74	66	2,119	2,622
Totals	234	219	7,372	8,601

NUMBER OF COLLISIONS.

	1926.	1927.
Autos v. pedestrians	14,047	15,312
Autos v. autos	10,516	14,337
Autos v. carriages, etc.	276	339
Autos v. bicycles	693	634
Autos v. trolley cars	308	354
Autos v. poles, trees, etc.	934	1,231
Autos v. trains	61	67
Autos v. motor cycles	420	379
Autos v. sleds	170	178
Motor cycles v. pedestrians	11	15
Totals	27,436	32,846

	1926.	1927.
In the daytime . . . . .	19,654	23,216
After dark . . . . .	7,782	9,630
Totals . . . . .	27,436	32,846

ACCIDENT REPORT LETTERS.

In accordance with the provisions of section 26, chapter 90, General Laws, every operator of a motor vehicle, which is in any manner involved in an accident in which any person is killed or injured, is required to report in writing to the Registrar. The number of these accident reports received in 1927 was 45,261, as compared with 33,399 received in 1926.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS.

YEAR.	Auto- mobiles Regis- tered.	Motor- cycles Regis- tered.	Total Regis- trations.	Number of Persons Killed.	Ratio num- ber of Reg- istrations per Person Killed.	Number of Persons Injured.	Ratio num- ber of Reg- istrations per Person Injured.	Total Suspensions and Rev- ocations.	For opera- ting under influence of Liquor.
1910	31,360	3,358	34,718	77	450	963	36	283	22
1911	38,907	3,658	42,565	110	386	1,248	34	360	14
1912	50,132	5,034	55,166	142	388	1,962	28	546	56
1913	62,660	7,127	69,787	188	371	2,923	23	608	87
1914	77,246	8,161	85,407	229	372	4,010	21	858	131
1915	102,633	9,520	112,153	294	381	6,197	18	1,153	202
1916	136,809	10,713	147,522	315	468	9,131	16	1,396	320
1917	174,274	11,065	185,339	438	423	7,282	25	1,831	485
1918	193,497	12,862	206,359	499	413	8,598	24	2,343	553
1919	247,183	13,698	260,881	582	448	16,287	16	2,156	554
1920	304,631	15,143	319,774	481	664	21,182	15	2,944	888
1921	360,731	12,058	372,790	544	685	11,487	32	4,899	1,508
1922	449,838	11,675	461,513	522	884	15,277	30	8,369	2,460
1923	566,150	11,733	577,883	578	999	16,217	35	11,613	3,333
1924	672,315	10,778	683,093	709	963	19,579	34	14,154	4,395
1925	764,338	10,333	774,671	755	1,026	25,736	30	16,249	4,654
1926	826,224	9,215	835,439	705	1,185	25,351	32	18,705	4,863
1927	819,703	7,245	826,948	693	1,193	31,721	26	31,252	4,983

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS.

Investigations and examinations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, head-light violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation of the classification of reports:—

Classification of Reports.

	1926.	1927.
Accidents, fatal . . . . .	679	668
Accidents, non-fatal . . . . .	1,385	1,686
Accidents, brief reports . . . . .	1,082	1,060
General reputation . . . . .	1,867	2,257
Miscellaneous . . . . .	5,349	5,917
Totals . . . . .	10,362	11,588
Complaints filed . . . . .	15,310	7,133
Garages inspected . . . . .	194	6,458
Headlight violations reported . . . . .	68,595	91,659
Prosecutions conducted . . . . .	812	852
Fines imposed . . . . .	\$34,125	\$41,116

ANALYSIS OF COURT ABSTRACTS RECEIVED.

	1926.	1927.
Number of courts forwarding abstracts . . . . .	95	95
Number of abstracts received (convictions) . . . . .	32,280	37,919



<i>Offences.</i>		1926.	1927.
(Analysis of guilty cases, not including appeals.)			
Overspeeding . . . . .		10,109	12,110
Reckless . . . . .		158	104
Intoxicated . . . . .		3,654	3,887
Using auto without authority . . . . .		741	730
Endangering lives . . . . .		1,654	2,152
Not stopping after causing injury . . . . .		468	511
Without license . . . . .		3,997	3,507
Without registration certificate . . . . .		1,462	1,330
Unregistered vehicle . . . . .		491	450
Improper display or no registration number . . . . .		558	427
Refusing to stop on signal . . . . .		422	522
Unlighted lamps . . . . .		710	1,454
No signal . . . . .		284	23
Operating within 8 feet of street car . . . . .		279	351
Violation of metropolitan park rules . . . . .		399	480
Operating after suspension or revocation of license . . . . .		340	457
Larceny . . . . .		284	186
Manslaughter . . . . .		2	2
Miscellaneous . . . . .		4,353	6,966
Lenses not approved . . . . .		379	101
Landing aircraft unlawfully . . . . .		—	—
No reflector . . . . .		100	27
Racing . . . . .		3	9
Operating after revocation of registration certificate . . . . .		2	6
No rear light . . . . .		242	394
Not displaying lights . . . . .		191	67
Violation spot-light law . . . . .		1	5
Improper lights . . . . .		461	707
Brakes not as required by law . . . . .		249	317
Notice of sale not sent . . . . .		6	5
Perjury . . . . .		2	1
Making false statements on license application, falsely impersonating or conspiring to obtain a license . . . . .		212	144
Loaning license to another . . . . .		13	15
Allowing intoxicated person to operate . . . . .		12	11
No wind-shield cleaner . . . . .		3	1
Attempted larceny . . . . .		39	33
Violation of insurance law . . . . .		—	348
Not slowing down approaching pedestrian . . . . .		—	77
REVOCATIONS AND SUSPENSIONS.		1926.	1927.
Licenses suspended . . . . .		6,706	7,707
Licenses revoked . . . . .		3,025	3,072
Rights suspended . . . . .		3,536	3,847
Registration certificates suspended . . . . .		30	33
Registration certificates revoked . . . . .		3,374	14,382
Registration certificates and licenses suspended . . . . .		83	137
Registration certificates and licenses revoked . . . . .		1,732	1,760
Registration certificates revoked and rights suspended . . . . .		162	175
Rights to have cars operated in Massachusetts suspended . . . . .		57	139
Totals . . . . .		18,705	31,252
Resulting from investigations . . . . .		9,842	13,057
Resulting from convictions . . . . .		8,050	8,623
Resulting from police complaints . . . . .		735	794
Resulting from judges' complaints . . . . .		47	66
Resulting from State police complaints . . . . .		31	131
Insurance cancellations . . . . .		—	8,581
Totals . . . . .		18,705	31,252

	<i>Character of Offences.</i>	<b>1926.</b>	<b>1927.</b>
Reckless and endangering . . . . .		1,357	1,547
Liquor convictions . . . . .		3,893	3,943
Going away after accidents . . . . .		361	350
Without authority . . . . .		575	427
Racing . . . . .		4	8
Improper person . . . . .		5,006	5,668
Improper person, liquor . . . . .		970	1,040
Improper operation . . . . .		3,398	4,061
Two overspeeds . . . . .		335	383
Three overspeeds . . . . .		21	25
Improper equipment, miscellaneous . . . . .		352	198
Improper equipment, lights . . . . .		1,051	1,325
Improper equipment, brakes . . . . .		474	2,552
Deaths (Fatal Accidents) . . . . .		682	653
Other offences . . . . .		226	254
Insurance cancellations . . . . .		—	8,581
Insurance convictions . . . . .		—	237
<b>Totals . . . . .</b>		<b>18,705</b>	<b>31,252</b>
<b>Hearings . . . . .</b>		<b>5,655</b>	<b>6,367</b>

Court recommendations adopted: —

Liquor . . . . .	1	0
Reckless and endangering . . . . .	35	33
Going away after accidents . . . . .	5	2
Without authority . . . . .	0	0
<b>Totals . . . . .</b>	<b>41</b>	<b>35</b>

Persons whose licenses were suspended or revoked and who had to pass examinations in order to have them returned . . . . .	2,761	3,329
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#### EXAMINATIONS FOR LICENSES.

Examinations of applicants for licenses to operate motor vehicles were held daily in Boston and the various branch offices of the Registry and at other points in the State at regular designated times. The tabulation below gives the classes and results of such examinations: —

	<b>1926.</b>	<b>1927.</b>
Operators passed . . . . .	108,269	100,695
Operators unfit . . . . .	29,083	24,524
Restriction removal, passed . . . . .	15,084	16,947
Restriction removal, unfit . . . . .	1,860	1,928
"Competency," passed . . . . .	498	661
"Competency," unfit . . . . .	42	38
<b>Total examinations . . . . .</b>	<b>154,836</b>	<b>144,793</b>

#### COMPULSORY MOTOR VEHICLE INSURANCE.

The compulsory motor vehicle insurance law, namely, chapter 346 of the Acts of 1925, as amended, became operative for the registration of motor vehicles in 1927. The work at the Registry occasioned by the operation of this law is being done by a separate section which is largely due to the many notices of intent to cancel, later cancellations and of reinstatements of insurance policies, on account of non-payment of premiums in cases involving an installment payment plan.

The following figures indicate the work of this section: —



*Cancellations of Insurance Policies.*

Month.	Notices of Cancellations Received.	Adjusted.	Registrations Revoked.	Incomplete.
January . . . . .	4,326	3,935	—	391
February . . . . .	3,916	3,487	16	413
March . . . . .	5,968	5,045	511	412
April . . . . .	3,828	2,631	759	438
May . . . . .	3,365	2,433	522	410
June . . . . .	3,423	2,530	628	265
July . . . . .	3,745	2,868	702	175
August . . . . .	4,632	3,366	970	296
September . . . . .	4,925	3,520	1,151	254
October . . . . .	4,946	3,365	1,369	212
November . . . . .	5,025	2,908	1,953	164
Totals . . . . .	48,099	36,088	8,581	3,430

The Registry received 48,099 legal notices from insurance companies of intent to cancel policies. Of this number 8,581 registrations were revoked, and 23,688 cases were adjusted by the insurance companies upon receipt of premiums due, and 7,400 were adjusted by the issuance of new insurance by other than the original company; and 5,000 cases were concluded by the return of registration plates before the effective date of cancellation.

About 13,250 certificates of replacement were received during the year.

Registration plates have been returned to the Registry as follows: —

Jan. 1 to June 30, 16,698; July, 4,386; Aug., 4,377; Sept., 3,638; Oct., 5,363; Nov., 5,287; a total of 39,849 plates.

**HEADLIGHTING.**

Two complete headlamps were approved by the Registrar during the year in accordance with the provisions of section 7, chapter 90, General Laws, as amended. Other headlamps and devices in various stages of development, as well as drawings and blue prints, were submitted for consideration. They were criticized for failure to comply with the intent of Massachusetts laws for various reasons. Every effort is being directed towards the better construction, and particularly to simplified focusing adjustment of headlamps so that a more complete compliance with the intent of the law will obtain in practice.

During the year inspectors of the Registry have reported approximately 150,000 violations of laws relating to lights and brakes.

**REAR LAMPS.**

Nine rear lamps were approved by the Registrar during the year. One of these was a single lamp, six were combined with stop signals only, and five were combined with stop signals and backing lights.

**BRAKES.**

The inspectors of motor vehicles have done considerable work on the enforcement of the law relative to brakes which is accomplished by the use of brake testing instruments. During the year about 75,000 complaints were reported by the inspectors concerning defective conditions of brakes.

**EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS.**

Representatives of the Department attended meetings of the Eastern Conference of Motor Vehicle Administrators in January at Paterson, N. J., and in October at Boston, Mass. At this latter meeting the Department of Public Works was host to the conference.

**AIRCRAFT REGISTRATIONS.**

(Chapter 90, General Laws, as amended by chapter 534, Acts of 1922, and chapter 189, Acts of 1925.)

During the year 36 applicants for pilots' licenses were examined, and 16 aircraft were inspected as to their fitness for registration. Other work included the

investigation of one fatal accident and two non-fatal accidents. Fifty-six miscellaneous cases, including complaints and violations of the aircraft laws were also investigated.

The following table shows the record relating to aircraft for the years 1926 and 1927: —

	1926.	1927.
Pilots' licenses issued . . . . .	29	36
Airplanes registered . . . . .	21	16
Pilot's license fees received . . . . .	\$235	\$285
Airplane registration fees received . . . . .	\$315	\$240
Pilots' licenses suspended or revoked . . . . .	1	1
Right to fly suspended or revoked . . . . .	0	1
Pilot's licenses reinstated . . . . .	1	1
Names placed on Black list . . . . .	0	3
Airplane registrations suspended or revoked . . . . .	2	0
Airplane registrations reinstated . . . . .	1	0
Prosecutions . . . . .	2	2

USED CARS SECTION.  
(Motor Vehicle Identification.)

This section lists the sale of used cars and keeps records of cars reported stolen. Information furnished by this office has assisted in the recovery of many cars, both within and outside of the State, and, in cases where makers' and engine numbers had been removed, investigations have been made to ascertain correct makers' and engine numbers of manufacturers and certificates issued to owners authorizing such numbers to be replaced and engine numbers assigned by this office to be stamped upon the engines.

The work of the Used Car Section is summarized in the following tables: —

Dealers:	1926.	1927.
First class dealers reporting to this office . . . . .	1,455	1,399
Second and third class dealers reporting . . . . .	566	454
Totals . . . . .	2,021	1,853

Motor Vehicles stolen:	1926.	1927.
Number of stolen motor vehicles reported to this office from sources both within and outside of Massachusetts . . . . .	22,979	16,623
Number of cars stolen in Massachusetts (including Boston) . . . . .	8,036	5,695
Number of cars recovered through information furnished by this office . . . . .	362	378
Number of cars stolen in Boston . . . . .	4,764	3,939
Number of cars stolen in Boston, recovered . . . . .	4,304	3,714
Number of cars stolen in Boston, not recovered . . . . .	460	225

Engine and serial numbers:		
Engine numbers assigned to cars . . . . .	121	57
Certificates issued authorizing replacement of engine numbers . . . . .	1,135	1,267
Certificates issued authorizing replacement of serial numbers . . . . .	1,257	2,021
Certificates issued authorizing replacement of both engine and makers' numbers . . . . .	53	58
Total number of authorization certificates issued . . . . .	2,445	3,346

BRANCH OFFICES.

The branch offices of the Registry of Motor Vehicles established to assist in the distribution of automobile number plates and licenses to operate motor vehicles, as well as furnishing information relative to the motor vehicle laws, were used extensively during the year as indicated by the following tabulation, which gives approximately the number of applications handled at the central office and at the several branch offices.



APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations.	Examina- tions for Licenses.	License Renewals.	Miscel- laneous.	Total.
Boston:					
Counter . . .	273,000	—	127,000	26,000	426,000
Mail . . .	139,000	—	361,000	9,000	509,000
Examinations . . .	—	90,000	—	—	90,000
Pittsfield . . .	25,000	3,000	12,000	1,000	41,000
Springfield . . .	84,000	8,000	37,000	5,000	134,000
Worcester . . .	70,000	7,000	34,000	5,000	116,000
Lawrence . . .	34,000	6,000	21,000	2,000	63,000
Lowell . . .	25,000	3,000	17,000	2,000	47,000
Fall River . . .	24,000	3,000	17,000	1,000	45,000
New Bedford . . .	25,000	4,000	18,000	1,000	48,000
Lynn . . .	53,000	7,000	29,000	3,000	92,000
Quincy . . .	32,000	6,000	16,000	3,000	57,000
Brockton . . .	35,000	4,000	18,000	2,000	59,000
Hyannis . . .	10,000	3,000	5,000	1,000	19,000
Totals . . .	829,000	144,000	712,000	61,000	1,746,000

REGISTRATIONS, LICENSES, FEES.

The registrations of motor vehicles in 1927 showed a substantial decrease, practically the first in the history of the Registry. The passenger car figures indicate a slight increase but this was mostly reissues and was entirely offset by the commercial and motor cycle registrations.

The following table shows the details of this change:--

PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES.

	1905.	1910.	1915.	1920.	1926.	1927.
Passenger cars . . .	4,889	31,360	90,580	251,570	717,539	722,955
Commercial vehicles . . .	—	—	12,053	52,968	108,685	96,748
Motor cycles . . .	553	3,358	9,520	15,142	9,215	7,245
Totals . . .	5,442	34,718	112,153	319,680	835,439	826,948

The fees received for the year 1927, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

ANALYSIS OF RECEIPTS.

Certificates of registration:

Passenger cars (including taxis) . . .	722,955	\$7,152,182 00
Commercial cars . . .	96,748	3,239,130 75
Busses . . .	1,404	166,469 00
Trailers . . .	443	19,467 50
Motor cycles . . .	7,245	32,177 00
Manufacturers or Dealers . . .	2,048	60,990 00
Additional cars . . .	8,105	50,555 00
Repairers . . .	510	12,550 00
Repairers' additional cars . . .	286	5,680 00
Motor cycle dealers . . .	38	380 00

Licenses to operate:

Original licenses . . .	102,285 at \$2 00	—	204,570 00
Renewal licenses . . .	711,809 at 2 00	—	1,423,618 00
Examinations . . .	123,189 at 2 00	\$246,378 00	
Re-examinations . . .	21,214 at 1 00	21,214 00	
Total examinations . . .	144,403		267,592 00

## Copies of certificates and licenses

furnished . . . . .	38,204 at \$1 00	—	\$38,204 00
Duplicate number plates furnished . . . . .	11,255 at \$1 00	—	11,255 00
Lens approval applications . . . . .	7 at \$50 00	—	350 00
Miscellaneous receipts, auto lists, process fees, etc. . . . .			4,145 22

Total . . . . .			\$12,689,315 47
Motor vehicle fees rebated (deducted) . . . . .			177,987 43

Net fees . . . . .			\$12,511,328 04
Court fines received by the Treasurer and Receiver-General . . . . .			625,113 55

Total receipts credited Highway Fund account, 1927 . . . \$13,136,441 59

The cost of running the Registry of Motor Vehicles for the year 1927 was \$1,162,-914.67, which was 9.2% of the net fees collected, as compared with 8.2% for the year 1926 and 10% for the year 1925. This cost, deducted from the receipts for the year, left the sum of \$11,973,526.92 available for legislative appropriation for highway work.

## ANALYSIS OF EXPENDITURES FOR 1927.

The following statement gives an analysis of expenditures for the year by the Registry: —

## Personal services:

Regular payroll . . . . .	\$649,167 87	
Overtime . . . . .	9,209 16	
		\$658,377 03

## Supplies:

Books, maps, etc. . . . .	\$341 96	
Typewriter supplies . . . . .	4,629 63	
Adding machine repairs and supplies . . . . .	221 18	
Other supplies . . . . .	2,773 38	
Stationery . . . . .	18,752 76	
Typewriter repairs . . . . .	70 10	
Other repairs . . . . .	540 37	
		27,329 38

## Equipment:

Typewriter machines . . . . .	\$2,799 64	
Other machines . . . . .	5,264 88	
Additional office equipment . . . . .	1,290 12	
Safes . . . . .	1,016 26	
Cash registers . . . . .	6,346 00	
Dictograph system . . . . .	1,825 76	
		18,542 66

## Furniture:

Desks . . . . .	\$785 18	
Files . . . . .	11,297 21	
Chairs . . . . .	865 82	
Miscellaneous . . . . .	552 22	
Electric fans . . . . .	116 85	
		13,617 28

## Travel:

Employees . . . . .	\$31,744 43	
Automobiles (owned by employees) . . . . .	97,823 23	
Other traveling expenses . . . . .	3,891 11	
		133,458 77

## Other services and expenses:

Expressage . . . . .	\$2,774 35	
Postage . . . . .	61,662 58	
Printing . . . . .	10,351 37	
Other reports . . . . .	3,850 49	



Lithographing . . . . .	\$1,964 59	
Telephone . . . . .	6,106 03	
Premium on bonds of employees . . . . .	338 59	
Rent . . . . .	22,147 26	
Water and ice . . . . .	1,299 40	
Cleaning and janitor service . . . . .	1,237 50	
Towels . . . . .	957 60	
Soap . . . . .	24 53	
	<hr/>	\$112,714 29
Special services (labor) . . . . .	\$2,086 55	
Other expenses as listed below:		
Badges for inspectors . . . . .	60 00	
Clocks and regulating . . . . .	21 41	
Headlight devices . . . . .	549 57	
Number plates . . . . .	164,092 34	
Sundries . . . . .	235 07	
Temporary branches during rush . . . . .	511 31	
	<hr/>	167,556 25
BRANCH OFFICE EXPENSES.		
Equipment:		
Lettering and signs . . . . .	\$39 75	
Office equipment . . . . .	263 66	
Safes . . . . .	2,272 10	
	<hr/>	2,575 51
Travel:		
Traveling expenses . . . . .	\$125 38	
Express service to bank . . . . .	480 16	
	<hr/>	605 54
Other services and expenses:		
Cleaning and janitor service . . . . .	\$2,117 72	
Expressage . . . . .	2,060 00	
Fuel . . . . .	218 00	
Lighting . . . . .	808 29	
Miscellaneous . . . . .	1,085 85	
Rent . . . . .	15,745 04	
Telephone . . . . .	4,661 56	
Towels . . . . .	245 15	
Water and ice . . . . .	233 90	
Special services (labor) . . . . .	962 45	
	<hr/>	28,137 96
Total . . . . .		<hr/> \$1,162,914 67

The following comparative statement for the years 1926 and 1927 shows an increase in work, notwithstanding a decrease in total registrations: —

	1926.	1927.
Passenger car certificates (including taxis) . . . . .	718,378	722,955
Highest number plate assigned . . . . .	600,600	624,999
Commercial car certificates . . . . .	108,685	96,748
Highest number plate assigned . . . . .	B99,999	B99,999
Motor cycle certificates . . . . .	9,215	7,245
Highest number plate assigned . . . . .	10,000	10,000
Bus certificates . . . . .	1,369	1,404
Trailer certificates . . . . .	464	443
Manufacturers' or Dealers' certificates . . . . .	2,134	2,048
Additional cars (dealers) . . . . .	7,414	8,105
Repairers' certificates . . . . .	376	510
Additional cars (repairers) . . . . .	69	286
Motor cycle dealers' certificates . . . . .	39	38
Additional cars (motor cycle dealers) . . . . .	25	—

Licenses to operate:		
Original . . . . .	106,279	102,285
Renewal . . . . .	657,672	711,809
Total licenses . . . . .	763,951	814,094
Examinations for licenses . . . . .	143,496	123,189
Re-examinations for licenses . . . . .	9,557	21,214
Total examinations . . . . .	153,053	144,403
Copies of certificates and licenses furnished . . . . .	39,967	38,204
Duplicate number plates issued . . . . .	14,735	11,255
Lens applications . . . . .	23	7
Total number of applications handled . . . . .	1,713,618	1,745,460
Total fees . . . . .	\$12,652,781 86	\$12,689,315 47
Motor vehicle fees rebated (deducted) . . . . .	194,285 29	177,987 43
Net fees . . . . .	\$12,458,496 57	\$12,511,328 04
Court fines received by the Treasurer and Receiver-		
General . . . . .	619,360 90	625,113 55
Total receipts credited Highway Fund . . . . .	\$13,077,857 47	\$13,136,441 59
Personal services . . . . .	588,741 47	658,377 03
Expenses . . . . .	439,721 39	504,537 64
Total expenses . . . . .	\$1,028,462 86	\$1,162,914 67

## RELATING TO WATERWAYS AND PUBLIC LANDS.

### BOSTON HARBOR.

#### THE COMMONWEALTH FLATS AT SOUTH BOSTON.

##### *Commonwealth Pier No. 5.*

The work of repairs and maintenance and of changes to provide additional space for the use of the Registry of Motor Vehicles has been continued during the year.

The contract of Oct. 25, 1926, with Joseph P. O'Hearn for furnishing and erecting four new scuppers in the concourse on the second floor of the head house, constructing two brick catch basins in the driveways on the first floor, and four 8-inch downspouts connecting the scuppers with catch basins, to provide additional drainage for the concourse, was completed Dec. 13, 1926, at a cost of \$2,980.

On Oct. 26, 1927, a contract was made with Joseph P. O'Hearn to reconstruct 16 roof pans, to remove 16 existing downspouts and replace them with cast iron soil pipes in the light wells, at a contract price of \$92.50 for each new downspout, and \$4 for repairing each remaining downspout. This work is now in progress.

The contract of Sept. 30, 1926, with Maurice M. Devine for painting certain offices in the head house, adjacent corridors and stairways, was completed Jan. 4, 1927, at a cost of \$4,420.04.

For furnishing and placing new fender logs on the sides and end of the pier, and for changing the location of certain existing fender logs, a contract with W. H. Ellis and Son Company was made Aug. 10, 1927, at the following contract prices: \$263 for each floating fender 70 feet to 75 feet long; \$300 for each floating fender 76 feet or more long; \$80 for relocating and securing each fender log moved. This work is now in progress.

The timber platforms at the pier have been repaired under letter contracts with W. H. Ellis and Son Company, at a total cost of \$1,462.40, and passenger gangways repaired and strengthened under an agreement with S. W. K. Brooks at a cost of \$2,129.14.

During the year repairs to the chimney and smoke flue at the heating plant were made at a cost of \$785.

On Sept. 7, 1927, a contract was made with Joseph P. O'Hearn to reconstruct and equip with toilet facilities Room No. 11 upon the first floor mezzanine on the east side of the pier, at a contract cost of \$3,265. This work is not yet completed.



Repairs necessary to floor surfacings at the pier were made under contract of Sept. 20, 1927, with M. F. Gaddis for furnishing and laying sheet asphalt or bitulithic pavement for floor of the concourse on the second floor of the head house, for the driveway on the first floor of the west shed, and for patching the present surfacing on the first and second floors. The work was completed Nov. 9, 1927, at a cost of \$15,243.46.

A contract was made on Sept. 15, 1927, with J. Slotnik Company for building an additional room at the pier for the use of the Registry of Motor Vehicles, at a contract price of \$7,380. This room is in a northerly extension of the first floor mezzanine on the east side of the pier, adjacent to the offices of the registry. The work is not yet completed.

#### *Viaduct.*

On Sept. 28, 1927, a contract was made with Joseph P. O'Hearn for furnishing and erecting eleven downspouts and drains under the roadway of the viaduct connecting Summer Street with the second floor of the pier. The contract price is the lump sum of \$2,650. The work is not yet completed.

#### DEVELOPMENT OF LAND SOUTH OF SUMMER STREET.

The Storehouses on D and E Streets, formerly known as the Army Stores, have been occupied during the year. All seven sections of Storehouse No. 1 are used by the Wiggin Terminals, Inc., under the terms of a lease dated Mar. 1, 1923. Storehouse No. 2 is in use by the United States Post Office Department and by the Division of Highways.

On April 6, 1927, a deed of a parcel of land containing 16,000 square feet at the northerly corner of Claflin and C Streets, was given to Kohler Company, in accordance with the terms of an agreement of Apr. 9, 1924.

#### THE COMMONWEALTH FLATS AT EAST BOSTON.

##### *Aircraft Landing Field.*

The aircraft landing field at East Boston continues to be used under the terms of the lease of June 29, 1922, and subsequent annual renewals to June 30, 1928, by the War Department as a flying field and air service station. The field is in the control of a detail of the Army Air Service under a commanding officer of the Air Corps.

On Dec. 27, 1926, a supplemental agreement regarding this area was executed extending the renewal option "for an additional period of five years, so as to give the lessee continuous possession (if so desired) of the premises, not extending, however, beyond June 30, 1937, but with the understanding that no renewal shall be made to include more than one fiscal year."

The area containing approximately 1,479,000 square feet, adjacent to and easterly of the landing field, is under lease of June 16, 1924, and subsequent annual renewals to June 30, 1928, to the Navy Department for a naval aviation station. This lease gives to the lessor the option of extending the period of occupancy by annual renewals to June 30, 1932.

Work has been continued during the year under the appropriation of \$10,000 by the City of Boston made available by the provisions of Chapter 385 of the Acts of 1926. Areas northerly of the east and west runway have been subgraded, filled and surfaced with cinders. Under agreement with Edward J. McHugh and Son approximately 2,600 cubic yards of cinders have been received for the work. The original runways have been widened and extended to a maximum length of 1,600 feet, and an area of about that length containing approximately 26 acres has now been covered with cinders. Five additional starting blocks of concrete, each 8 feet by 10 feet and 6 inches thick, have been placed at intervals along a line extending westerly from the blocks previously placed.

On the southerly side of the field are five hangars, two occupied by the United States Army, two by the 101st Observation Squadron of the National Guard, and one by the Airport Development Company.

##### *Dredging and Filling in East Boston.*

No contract for dredging and filling has been in force at East Boston since the completion on Dec. 24, 1923, of that with the Atlantic, Gulf and Pacific Company. Since that time about 1,516,063 cubic yards of material dredged from various

locations in the harbor by dredging companies employed chiefly upon private work have been deposited in the receiving basin.

The Commonwealth has reclaimed at East Boston about 150 acres of land, a part of which is included in the areas leased to the Federal Government for the aircraft landing field.

#### COMMONWEALTH PIER No. 1, EAST BOSTON.

On Oct. 26, 1927, a contract was made with the W. A. Norton Company for repairs to the deck at the pier and for installation of cast-iron belay posts. The principal work to be done under this contract is the removal of deck planking outside the shed, on the east platform, and on certain portions of the outer and west platforms, the renewal of door guides on the east side and of some of the west side, and the installation of belay posts on the east platform. This work is not yet completed.

#### POINT ALLERTON SEA WALL, HULL.

Work under contract of Sept. 8, 1926, with Bradford Weston for the construction of a sea wall, under the provisions of Chapter 315 of the Acts of 1925, was completed Oct. 13, 1927, at a total cost of \$72,059.26. In accordance with the terms of the statute the town of Hull and the County of Plymouth contributed \$25,000 each toward this cost, and the town agreed to indemnify the Commonwealth against any claim for damages due to the building of the structure.

The new wall extends from the westerly end of the Granite masonry wall built by the Federal Government a distance of 1,469.9 feet westerly to a junction with the wall built by the Commonwealth at Stony Beach. The height of the wall varies from 16 feet near the easterly end to 11 feet at the westerly end. Back-filling has been placed to a level three feet below the top of the wall.

This structure gives protection urgently needed to a section of the shore between two walls built some years earlier, and checks the serious erosion of the shore and the undermining of buildings along the water front.

Amount expended during the year, \$49,229.74. Total expenditure to Dec. 1, 1927, \$75,127.05.

#### WEYMOUTH FORE RIVER, BRAINTREE AND WEYMOUTH.

Hearing was held Feb. 23, 1927, upon the petition of the Braintree Point Welfare Club, Inc., and others, for dredging the channel in Weymouth Fore River upstream from a point near the Idlewild Recreation Pier.

On June, 2 1927, a contract was made with the Bay State Dredging and Contracting Company for dredging to a depth of 6 feet at mean low water a channel 75 feet wide on the bottom from a point about 500 feet northerly of the Idlewild Pier a distance of 5,400 feet to Braintree Bridge; for dredging the channel through the draw of said bridge, and the channel 50 feet wide above the bridge, and for removing a shoal northerly of Idlewild Pier. The contract prices for this work were: for dredging and disposing of the dredged material, 53 cents per cubic yard measured in scows; for removing and disposing of boulders, \$18 per cubic yard.

Work under this contract was completed Oct. 17, 1927, at a cost of \$34,544.34. Toward this cost contributions aggregating \$8,250 were made as follows: Town of Braintree, \$2,000; J. F. Shepard and Sons, Inc., Old Colony Gas Company, Rhines Lumber Company, and A. J. Richards and Son, the sum of \$1,562.50 each.

Amount expended during the year, \$31,460.74. Total expenditure to Dec. 1, 1927, \$64,219.94.

#### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR.

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$60,000 was made during 1927, with the following condition:

“provided, however, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is



covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be covered by contributions from municipalities or other organizations or individuals."

An appropriation of \$25,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Division during the year for surveys and improvements in the following localities: Falmouth Inner Harbor, Falmouth; Harbor Cove, Gloucester; Herring River, Harwich; Lobster Cove, Gloucester; Oak Bluffs; Rock Harbor, Orleans; Seapuit River, Barnstable; West Bay, Barnstable.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Herring River, Harwich; Oak Bluffs; Rock Harbor, Orleans; Seapuit River, Barnstable; West Bay, Barnstable.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, in previous reports of this Division, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of the work done during year 1927, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

#### ALLEN'S HARBOR, HARWICH.

Work under contract of Aug. 30, 1926, with Starbuck and Thomas for the construction of two timber jetties at the entrance to Allen's Harbor was completed Feb. 4, 1927. A jetty 400 feet long has been built on the westerly side of the harbor entrance, and one 276 feet long upon the easterly side, with a distance of 105 feet between the outer ends of the two structures. As originally planned, the length of the easterly jetty was to be 300 feet, but the character of the bottom encountered in the work made additional piles necessary and increased the cost so much that this jetty could be extended 276 feet only.

Severe southerly storms and unusually high tides during October caused erosion of the beach easterly of the east jetty and damage to the westerly jetty. A barrier of concrete in bags has been built for the protection of the beach easterly of the easterly jetty, and an agreement has been made with Frank C. Taylor for repairs to the westerly jetty. These repairs are now in progress. Amount expended during the year, \$10,166.73. Total expenditure to Dec. 1, 1927, \$16,091.45.

#### BEVERLY HARBOR.

Under authority of chapter 12, Resolves of 1922, the Commonwealth paid \$50,000 as a contribution toward the cost of the improvement of Beverly Harbor under a project of the Federal Government including dredging and the removal of ledge. The dredging was completed in 1924 and the removal of ledge in October, 1927, providing a channel 24 feet deep at mean low water to the wharves at Beverly.

#### BRANT ROCK, MARSHFIELD.

Severe northeast storms in February caused erosion of the beach in front of the sea walls at Brant Rock. An inspection in March showed considerable damage to the rubble wall north of Brant Rock by the removal of large stones from its face and by the cutting away of the beach to such an extent that the base of the wall was practically at the surface. A condition somewhat similar was found at the wall south of Brant Rock, although the damage was less in extent.

An agreement was made on Mar. 15, 1927, with Frank H. Barry to repair the concrete wall north of Brant Rock, to put concrete foundations under certain

sections of this wall, and to place riprap in front of the wall southerly of Brant Rock. This work was done at a cost of \$2,700.35.

In September, the chairman of the Selectmen of Marshfield wrote to the Department regarding the undermining of other sections of the sea wall as a result of recent storms. An inspection showed the necessity for additional footings. An agreement was made with Frank H. Barry on March 15, 1927, for continuing the placing of concrete footings under sections of this wall. This work was begun on Oct. 24, 1927, and is now in progress. Toward the cost of these repairs a contribution of \$1,625 has been made by the town of Marshfield.

Amount expended during the year, \$4,605.39. Total expenditure to Dec. 1, 1927, \$22,784.14.

#### CAPE POGE CHANNEL, EDGARTOWN.

An inspection made in November, 1926, of the riprap and jetties protecting the entrance channel to Cape Poge Bay from Muskeget Channel on the easterly shore of Chappaquiddick Island, Edgartown, showed the need of additional protective work. Under date of Nov. 22, 1926, an agreement was made with William E. Burke to place about 250 tons of stone chips and riprap at the inshore end of the jetties. This work was completed Jan. 20, 1927. Amount expended during the year, \$1,871.27. Total expenditure to Dec. 1, 1927, \$38,639.00.

#### CONNECTICUT RIVER.

The destructive flood of Nov. 4-6 not only destroyed property upon the river banks and lands overflowed by the high water, but eroded the banks, carried away riprap placed by the Commonwealth, and seriously weakened dikes built for the protection of farms and highways. As soon as the waters began to recede exposing the damage, requests for reconstruction and for further protective work came to the Department from the towns of Hadley, Hatfield and Northfield.

Inspections and examinations by the engineers, as a basis for estimates of cost of the work requested, were begun as soon as river conditions allowed. The need of repairs along the river banks to work already done, and of further protective work, is urgent, but the funds at the disposal of the Department are insufficient to carry out any plan for adequate protection.

A serious condition at Hatfield where immediate work is necessary to prevent the failure of the dike, will be remedied at once under an agreement made Nov. 29, 1927, with Gleason Bros., of Northampton for placing about 560 cubic yards of filling and 700 tons of stone riprap upon the westerly bank of the river in Hatfield.

Protective work along the river banks particularly in Hatfield, Hadley, Northfield and West Springfield is badly needed during the coming year to check the continuance of the serious erosion by the November flood.

#### COTUIT SHORE PROTECTION, BARNSTABLE.

Inspection of the shore at Cotuit at the bulkhead built by the Commonwealth in 1925 showed erosion of the bank near the northerly end of the structure. The necessary repairs were made at a cost of \$150.

A severe southerly gale and an extreme tide on Oct. 15, caused serious damage to the timber bulkhead and spur jetties. Under an agreement made Oct. 24, 1927, with Daniel Bros., the work of repairing these structures is now in progress. Amount expended during the year, \$1,166.82. Total expenditure to Dec. 1, 1927, \$69,946.79.

#### ELLISVILLE HARBOR, PLYMOUTH.

The storms of the winter caused damage this year to the top of the jetty at Ellisville, and a shoaling in the channel from the wash of material over the damaged jetty.

To repair the damage and to check the movement of sand into the channel, a timber fence was built along the crest of the jetty at a cost of \$701.69.

Amount expended during the year, \$701.69. Total expenditure to Dec. 1, 1927, \$19,221.97.

#### FALMOUTH INNER HARBOR, FALMOUTH.

Hearing was held Feb. 23, 1927, upon the petition of William W. Phinney, and others, for dredging by the Commonwealth in Falmouth Inner Harbor.

On June 13, 1927, a contract was made for dredging an anchorage basin in this



harbor to a depth of 6 feet at mean low water, disposing of the dredged material upon the shore in certain marsh areas and low land adjacent to the dredging. The contract prices for this work were: for dredging and disposing of the dredged material upon the shore above high water line, 53 cents per cubic yard of material measured in place; for removing and disposing of boulders, \$25 for each cubic yard. The work was completed Oct. 1, 1927, at a cost of \$29,808.26.

Under this contract an area of 6.1 acres was dredged to a depth in excess of six feet at mean low water, extending that depth over practically the whole of Falmouth Inner Harbor. Toward the cost of this work the town of Falmouth made a contribution of \$15,000.

Amount expended during the year \$30,642.54. Total expenditure to Dec. 1, 1927, \$143,444.58.

#### HARBOR COVE, GLOUCESTER.

Hearing was held Apr. 21, 1927, upon the petition of Harold B. Webber, and others, for dredging.

On May 20, 1927, an agreement was made with the Bay State Dredging and Contracting Company to dredge about 10,000 cubic yards of material in removing shoals to a depth of 15 feet at mean low water, and in dredging a channel to a depth of 17 feet at mean low water in Harbor Cove, at the following prices: for dredging, 58 cents per cubic yard; for removal of boulders, \$20 per cubic yard. This work was completed August 19, 1927, when all shoals outside the harbor line had been removed to a depth of 15 feet at mean low water except where ledge was encountered, and a channel 17 feet deep at mean low water, 50 feet wide on the bottom and 900 feet long, had been dredged from the 17-foot contour in Gloucester Harbor to a point off the wharf of the General Sea Foods Corporation; and a channel about 200 feet long, 50 feet wide on the bottom and 16 feet deep at mean low water from that point to the dock of the Gloucester Cold Storage and Warehouse Company. The total cost of the dredging was \$5,352 toward which a contribution of \$3,000 was made by the city of Gloucester. Amount expended during the year, \$5,760.31. Total expenditure to Dec. 1, 1927, \$25,155.04.

#### IPSWICH RIVER, IPSWICH.

Under the agreement made with Manzer and Damon for the removal of three boulders from an area in Ipswich River opposite Heard's Point, so-called, no work has been done during the year. This agreement was made in 1926 and a part of the work done during that year, but no further progress has been made.

Total expenditure to Dec. 1, 1927, \$58,989.55.

#### LOBSTER COVE, GLOUCESTER.

Hearing was held Feb. 23, 1927, upon the petition of William H. Poland, Jr., and others, for dredging.

On May 12, 1927, a contract was made with the Bay State Dredging and Contracting Company for redredging the anchorage basins in Lobster Cove to depths of 6 feet and 8 feet, respectively, at mean low water, at the following prices: for dredging and disposing of the dredged material, 51 cents per cubic yard; for removing and disposing of boulders, \$15 per cubic yard.

Work under this contract was completed Aug. 3, 1927, at a total cost of \$10,613.10. Toward this cost a contribution of \$3,000 was made by the city of Gloucester. Amount expended during the year, \$11,363.50. Total expenditure to Dec. 1, 1927, \$61,603.36.

#### NEW BEDFORD STATE PIER.

During the first seven months of the year the Division continued to operate this pier, as it has done since the termination on Dec. 31, 1923, of the lease to the New Bedford Storage Warehouse Company. The schedule of rates approved by the Governor and Council in 1925 has been used during the year.

An application for lease of a part of the pier was received in the spring from the Lamport Manufacturing Supply Company, Inc. Notice of this application was sent to the Mayor and Aldermen of New Bedford, and a public hearing, duly advertised, was held, in accordance with the provisions of Chapter 375 of the Acts of 1920, on Apr. 8, 1927, at the Municipal Building in New Bedford, regarding the proposed lease. After various conferences between the Commissioners and

representatives of the Company a lease was executed on July 29, 1927, and approved by the Governor and Council Aug. 4, 1927.

This lease provides for the use by the Lamport Manufacturing Supply Company, Inc., of a specified portion of the pier for a term of ten years, beginning Sept. 1, 1927, at a rental of \$6000 per annum for the first five years, and of \$10,000 per annum for the second period of five years, — and states, in part:

“And the Lessee further covenants with the Lessor that the Lessee will provide reasonable facilities for vessels which desire to use the present unenclosed portion of the pier for water-borne commerce, as well as reasonable accommodations for loading and unloading cargo during the term of this lease.

“The Lessee covenants and agrees that the charges made for the use of such portion of the pier shall be in accordance with a tariff published by said Department effective July 15, 1925, and approved by the Governor and Council, and no changes shall be made in such tariff without the approval of said Department.”

Before September various minor repairs were made, the steel work in the steel shed was painted and certain leaks and cracks in the side walls of the buildings waterproofed.

Two freight transportation companies occupy space in the Immigration Shed, the only building on the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$7,524.27. Total expenditure for operation and maintenance to Dec. 1, 1927, \$45,991.82.

#### COMMONWEALTH PROPERTY AT PLYMOUTH.

During 1927 an appropriation of \$9,000 was made for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Division of Waterways and Public Lands by vote of the Governor and Council on July 17, 1924.

The work of placing gravel and stone riprap in front of the bulkhead at the pier upon this property has been continued during the year under an agreement with Arthur K. Finney, at the following prices: for filling in place \$1.25 per cubic yard; for stone riprap in place \$4 per ton of 2,000 pounds.

Minor repairs have been made to the roadways at this property during the year, and an employee has been kept at the premises to give the necessary care to the grounds. Amount expended during the year, \$4,170.01. Total expenditure to Dec. 1, 1927, \$17,764.63.

#### PROVINCETOWN SHORE PROTECTION.

Work under contract of Oct. 1, 1926, with J. W. Nickerson, for placing riprap along the shore in front of the State highway in Provincetown, was completed Dec. 4, 1926. A total amount of 635.09 tons of stone was placed to extend the protective work about 200 feet beyond the riprap placed in 1924. As the work was undertaken to protect the State highway, one-half the cost was paid by the Highway Division. Amount expended during the year by the Division of Waterways, \$371.03. Total expenditure to Dec. 1, 1927, \$28,410.11.

#### PROVINCETOWN TERCENTENARY COMMISSION.

Under the provisions of chapter 366 of the General Acts of 1919, the Provincetown Tercentenary Commission acquired certain land in Provincetown, Truro and Eastham. When the final report of the Commission was accepted by the Governor and Council on June 23, 1926, the areas so acquired came under the jurisdiction of the Division of Waterways and Public Lands in accordance with the provisions of section 2, chapter 91, General Laws, and have been in the care of the Division since that date.

During the year care has been given to the park areas included in this property and surveys made of the boundaries of land acquired by the Tercentenary Commission. Granite monuments marking these boundaries have been placed to define all the areas so acquired except the parcel taken at North Truro. The cost of the care of this property has been paid from appropriations available for care of the Province Lands.



## SCITUATE SEA WALLS.

An inspection in September of the sea wall easterly of Surfside Avenue in North Scituate showed some damage to the wall and coping by action of the sea. Under an agreement with Frank H. Barry the necessary repairs were made to this wall upon a basis of day labor. The work was completed October 24, 1927, at a total cost of \$304.88. Amount expended during the year, \$304.88. Total expenditure at Surfside to Dec. 1, 1927, \$16,566.19.

## WEST FALMOUTH HARBOR, FALMOUTH.

Early in October the timber breakwater built at the harbor entrance was seriously damaged by a heavy southerly storm and high tide. A section about 80 feet long near the southerly end of the structure was lifted and flung inward several feet. An agreement with Frank C. Taylor to make repairs to the breakwater upon a cost plus fifteen per cent basis, was made Oct. 13, 1927. This work is now in progress. Amount expended during the year, \$483.31. Total expenditure to Dec. 1, 1927, \$54,069.89.

## WINTHROP SHORE.

*Great Head, Winthrop.* — By Chapter 388 of the Acts of 1926, and Chapter 4 of the Acts of 1927, the Department was authorized to build a breakwater or sea wall, with the necessary back filling, along the easterly and southerly side of Great Head, Winthrop, to protect the bluff from erosion by the sea. The provisions of the statutes required the town to accept the act of 1926, to appropriate one-half the total cost of the work, and to assume all liability for damages.

The town of Winthrop duly accepted the provisions of the Act of 1926, authorized the Selectmen to execute and deliver to the Commonwealth a bond of indemnity for damages, and appropriated and paid to the Commonwealth \$37,500 as one-half the cost of the work.

On June 29, 1927, a contract was made with Luke S. White, Inc., to build a concrete sea wall approximately 1,210 feet long with about 2,100 tons of granite riprap in front of it, along the easterly and southerly shores of Great Head, Winthrop, at the following contract prices: for furnishing materials and constructing the concrete sea wall \$18 for each cubic yard of concrete measured in place in the completed work; for furnishing and placing heavy stone riprap and stone chips, \$5 per ton of 2,000 pounds in place in the completed work. Under this contract work began July 15, 1927, and is now in progress. Amount expended during the year, \$60,397.51. Total expenditure to Dec. 1, 1927, \$60,397.51.

*Point Shirley Sea Wall, Winthrop.* — An inspection of the sea wall made in the spring showed that the riprap at the southerly end had been dislodged and spread over the beach by the winter storms. On May 13, 1927, an agreement was made with Frank H. Barry to replace this riprap for the lump sum of \$140. The work was completed July 29, 1927, at a total cost of \$154.20. Amount expended during the year, \$154.20. Total expenditure to Dec. 1, 1927, \$20,241.22.

## MISCELLANEOUS.

## ANGLE TREE MONUMENT RESERVATION.

Under the provisions of chapter 289 of the Acts of 1925, the Department on Mar. 3, 1927, made a taking of land to preserve and protect the Angle Tree Monument, so called, erected by the Commonwealth in 1790 to mark the site of the Angle Tree which served as a bound between the colonies of Massachusetts Bay and Plymouth, and to secure access to this monument from the highway. Two parcels of land were included in this taking, an area forty-five feet square around the monument and a strip of land about 965 feet long and 15 feet wide extending from High Street in North Attleborough to this area. As the land taken was unimproved no damages were awarded. The Department intends to clear all brush and trees from the land taken, to build a fence enclosing the area and a suitable walk from High Street to the monument.

Amount expended during the year, \$159.12. Total expenditure to Dec. 1, 1927, \$159.12.

GREAT PONDS.

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Baddacook Pond, Groton; Blackmores Pond, Wareham; Brigham Pond, Hubbardston; Coopers Pond, Carver; Coonammesset Pond, Falmouth; Congamond Lake, Southwick; Flax Pond, Brewster; Furnace Pond, Pembroke; Grass Pond, Harwich; Island Creek Pond, Duxbury; Kings Pond, Plymouth; Lake Chauncey, Westboro; Lake Quannapowitt, Wakefield; Lake Quinsigamond, Worcester; Lake Winthrop, Holliston; Long Pond, Housatonic; Martins Pond, North Reading; Mascuppick Lake or Tyngs Pond, Dracut; Monponsett Ponds, Halifax; Muddy Pond, Kingston; Pontoosuc Lake, Lanesborough and Pittsfield; Shivericks Pond, Falmouth; Skinequit Pond, Harwich; Spectacle Pond, Lancaster; Tisbury Great Pond, Tisbury and Chilmark; Walkers Pond, Harwich; Warner Pond, Greenwich.

A list of lakes and ponds of the State with areas of ten or more acres, given by counties, is printed in the report of the Commission on Waterways and Public Lands on "Water Resources of Massachusetts, 1918."

Surveys have been made during the year of the following ponds:

Name.	Town.	Area Surveyed, Acres.	Natural Areas.	Max. Depth, Ft.
Quaboag Lake	Brookfield and East Brookfield	541	541	41.8
Quacumquasit Lake, sometimes called South Pond,	Brookfield, East Brook- field and Sturbridge	226	226	38.2
Spectacle Pond	Lancaster	66	66	45.6

Amount expended during the year, \$544.64. Total expenditure to December 1, 1927, \$11,299.75.

ACCESS TO GREAT PONDS.

Two petitions relative to public access to great ponds were filed during the year in accordance with the provisions of Chapter 453, Acts of 1923.

On Dec. 2, 1926, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth representing that public necessity requires a right of way for public access to Walkers Pond, locally known as Bucks Pond, in the town of Harwich. No further action has been taken.

On Feb. 3, 1927, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth representing that public necessity requires a right of way for public access to Flax Pond in the town of Brewster. No further action has been taken.

A special report was made to the Legislature Dec. 1, 1926, relative to acquiring a right of way for public access to South Pond in the town of Savoy. This report concludes:

"Upon consideration of all the evidence, the board finds that it appears that no right of way for public access to this pond exists, and that public convenience and necessity do not require that such right of way be established."

A special report was made to the Legislature Dec. 31, 1926, relative to acquiring a right of way for public access to Island Creek Pond in the town of Duxbury. This document, House No. 227 of 1927, contains the following conclusions and recommendations:

"From a study of the evidence the board is of the opinion that no right of way for public access to this pond exists.

"The pond is not used as a source of water supply, nor is it used for mercantile



or manufacturing purposes other than for flooding cranberry bogs, which use would not be affected by providing a means of public access.

"While the board is of the opinion that public necessity and convenience does not require the establishment of a right of way, it believes that it would be advisable in this case, and in accordance with sound public policy to do so.

"The owners of Tinkertown Acres object to having the roadway referred to, which runs close to their buildings, made a public way, but they are willing to give a strip of land elsewhere therefor. An adjoining owner also expressed his willingness to give a strip of land for that purpose. These parcels would provide a strip about one hundred feet wide and three hundred feet long from Tobey Garden Street to the pond. The land is low and marshy, however, and would require some filling to make it passable. It should be laid out so as to avoid a grove of attractive pines.

"So far as the board can determine, this strip, if established as a public way, would provide a means of public access to this pond which would be satisfactory to all concerned.

"The board, therefore, recommends that the Commissioners of Plymouth County be authorized and directed to take the necessary land to provide this right of way, and do or order to be done such work thereon as they consider necessary, and that the expense thereof be borne by said county or by the cities and towns of said county as said commissioners shall determine."

Chapter 186 of the Acts of 1927 provides for carrying this recommendation into effect.

Expenditures under the provisions of chapter 453, Acts of 1923, are included in the amounts given under Great Ponds.

#### PROVINCE LANDS.

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Twenty-five acres of sand dunes have been covered with brush and 10 acres of bayberry transplanted. In addition 18,000 native pines on the sod have been transplanted and 190,000 seedlings planted.

The sum of \$322.99 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands. Amount expended during the year, \$4,879.57. Total expenditure to Dec. 1, 1927, \$116,-090.90.

#### STATE BOUNDARIES.

During the perambulation of the State boundaries in 1925 under the provisions of section 4, chapter 1, General Laws, it was observed that some cutting of brush and trees should be done along the Massachusetts-New York boundary line. During the present year about 15,000 feet of this boundary line were cleared of brush and trees. One-half of the cost of the work was paid by the State of New York and one-half by the Commonwealth of Massachusetts.

On October 13th and 14th, 1927, bound No. 108 on the Massachusetts-New York line was reset. This bound now stands in a bed of concrete on the northerly side of the New Petersburg-Williamstown highway about 27 feet northerly of its former location.

On October 11, 1927, a new bound on the Massachusetts-New Hampshire State line was set in concrete on the easterly side of the highway leading from Winchendon, Massachusetts, to the Fitzwilliam, New Hampshire, railroad station.

This bound is now 60 feet easterly of the old State line bound which has been cut off at the ground level.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS.

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, whereby results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department, said data being available for other Departments of the Commonwealth.

Toward the cost of this work the Department has paid during the year, \$3,999.91.

#### TOPOGRAPHICAL MAP OF MASSACHUSETTS, TOWN BOUNDARY ATLASES OF THE BOUNDARY LINES OF CITIES AND TOWNS, AND OTHER MAPS.

Under authority of section 33, chapter 91, General Laws, as amended by section 2, chapter 57, Acts of 1923, and under previous laws, 4,836 sections of the topographical map of Massachusetts, 20 maps of Massachusetts dated 1917, 42 maps of Boston Inner Harbor edition of 1923, 3 maps of the Province Lands at Provincetown, and 5 atlases of the boundary lines of cities and towns have been sold during the year ending Nov. 30, 1927, for which \$718.75 was received and paid into the treasury of the Commonwealth.

No town boundary atlases were distributed during the year under authority of chapter 360, Acts of 1900, as amended by chapter 484, Acts of 1909.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS.

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following new triangulation stations were determined and permanently marked on the ground and geographical positions furnished to the Land Court: 1 station in Scituate; 6 stations in Marshfield; 37 stations in Falmouth; 3 stations in Bourne; 4 stations in Sudbury.

In addition a stone bound set by the towns of Marshfield and Scituate at a point where the old mouth of the North River was located previous to the storm of 1898, was also determined, as well as the direction of the Marshfield-Scituate line where it crosses the Neck about 3,000 feet southerly of Humarock Beach. The bound and direction determined on this line have been agreed upon by the Towns of Marshfield and Scituate as the boundary line between said towns in substitution for the former line defined as the center of the channel of the North River. The present mouth of the river is located several thousand feet to the north of this boundary line. Amount expended during the year, \$982.94.

#### LICENSES AND PERMITS.

During the year 110 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 107 permits for miscellaneous purposes. Eighty-seven permits granted by cities and towns for the construction and maintenance of fish weirs in tide water have also been approved.



## APPENDIX.

## RECEIPTS DURING FISCAL YEAR 1927.

*Port of Boston Fund.*

Rent under leases and permits . . . . .	\$112,372 61	
Use of Commonwealth Pier 5 . . . . .	170,795 58	
Use of Commonwealth Pier 1 . . . . .	1,251 99	
Use of Hayward's Creek Property . . . . .	224 00	
Inspection of dumping, Boston Harbor . . . . .	2,751 82	
Dumping at Receiving Basins, Boston Harbor . . . . .	4,630 75	
License charges, Boston Harbor (tidewater assessments)	5,630 54	
Telephone Pay Station receipts . . . . .	75 67	
Sale of Boston Harbor maps . . . . .	24 00	
Sale of land, South Boston . . . . .	35,200 25	
Sale of sand and gravel . . . . .	12,100 00	
Sale of building . . . . .	500 00	
Sale of junk . . . . .	40 17	
Sundries:		
D St. roof repair reimbursement . . . . .	386 75	
Refund . . . . .	8 28	
		<u>\$345,992 41</u>

*General Revenue.*

Inspection of dumping, outside Boston Harbor . . . . .	\$6,327 79	
License charges, outside Boston Harbor (tidewater assessments, etc.) . . . . .	7,766 37	
Certified copying charges . . . . .	134 00	
Sale of Atlas sheets, specifications, plans, etc. . . . .	823 50	
Sundries . . . . .	42 62	
Interest on bank accounts . . . . .	163 25	
Use of Province Lands . . . . .	322 99	
Use of New Bedford State Pier . . . . .	3,837 77	
		<u>19,418 29</u>
		<u>\$365,410 70</u>

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR  
1859-1927, INCLUSIVE.

Payments.	To Nov. 30, 1926.	1927.	Total.
Boston Harbor . . . . .	\$1,714,186 73		
Boston Harbor Minor Channels		\$103 33	
Dredging and Filling . . . . .		2,497 19	\$1,716,787 25 <sup>1</sup>
Commonwealth Flats, East Boston	3,063,851 39		
Aircraft Landing Field . . . . .		6,382 98	3,070,234 37 <sup>2</sup>
Commonwealth Flats, South Boston . . . . .	4,861,766 19		
Streets, Piers and Railroads . . . . .		6,651 67	4,868,417 86
Castle Island Filling . . . . .	727,326 60		
Dredging and Filling . . . . .		1,447 05	728,773 65
Commonwealth Pier No. 5 (Construction) . . . . .	4,003,550 90		
Streets, Piers and Railroads . . . . .		5,332 05	4,008,882 95
Commonwealth Pier No. 6 . . . . .	1,092,149 06		1,092,149 06
Dry Dock . . . . .	3,169,651 15		3,169,651 15 <sup>3</sup>
Hayward's Creek . . . . .	385,959 61		385,959 61 <sup>4</sup>
Mystic River . . . . .	426,051 63	2,411 78	428,463 41 <sup>5</sup>

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.00.<sup>2</sup> Appropriated by City of Boston, \$10,000.00.<sup>3</sup> Paid by State Treasurer from Development of Port of Boston Loan Sinking Fund, \$17,788.73 additional.<sup>4</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation, \$38,600; paid by State Treasurer for land taking, \$3,725.27.<sup>5</sup> Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.00.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,  
ETC. — *Concluded.*

Payments.	To Nov. 30, 1926.	1927.	Total.
Malden River . . . . .	\$32,268 70	—	\$32,268 70 <sup>1</sup>
Chelsea Creek . . . . .	60,519 88	—	60,519 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Commonwealth Pier No. 1, East Boston . . . . .	1,199,339 68	\$363 55	1,199,703 23
Commonwealth Pier No. 5, South Boston . . . . .			
Operation and Supervision . . . . .	972,750 82	122,579 45	1,095,330 27
Commonwealth Pier No. 1, Main- tenance . . . . .	71,877 51	7,811 45	79,688 96
Maintenance of Property of Com- monwealth . . . . .	546,680 43	39,102 78	585,783 21
	<hr/>	<hr/>	<hr/>
	\$22,381,143 38	\$194,683 28	\$22,575,826 66

<sup>1</sup> Expended by U. S. Government, \$31,000; contribution by Standard Oil Co. of New York, \$600.00.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND  
CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPART-  
MENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LAND, AND  
ITS PREDECESSORS, FROM 1893 TO 1927, INCLUSIVE.

Locality and Character of Work.	Contributions by	
	Municipality or Others.	Total Expenditure.
Cottage Park Channel, Winthrop, Dredging . . . . .	\$1,000 00	\$22,012 08
Dorchester, easterly shore, Dredging and survey . . . . .	1,000 00	84,990 17
Harbor View, Boston, Dredging . . . . .	—	146 00
Hingham Harbor, Dredging . . . . .	6,500 00	41,595 12
Hough's Neck Channel, Quincy, Dredging . . . . .	3,500 00	29,856 28
Island End River, Everett, Survey . . . . .	—	264 10
Jeffries Point Channel, Dredging . . . . .	—	2,961 90
Mystic River (near Lawrence & Wiggin's Wharf) Dredging . . . . .	—	5,927 70
Neponset River, Dredging . . . . .	10,000 00	101,533 69
Old Harbor Cove, Dredging . . . . .	—	9,821 69
Orient Heights Channels, Dredging . . . . .	—	45,323 67
Pemberton Point, Hull, Breakwater . . . . .	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, Dredging . . . . .	—	3,154 92
Point Allerton, Hull, Sea wall . . . . .	50,000 00	75,127 05
Point Shirley, Dredging . . . . .	—	3,713 37
Quincy Bay, Dredging . . . . .	3,000 00	54,416 37
Shirley Gut, Boston and Winthrop, Dredging . . . . .	—	2,110 96
South Boston, Southerly shore, Dredging . . . . .	—	129,542 08
Stony Beach, Hull, Sea wall . . . . .	—	12,326 09
Town River, Quincy, Survey . . . . .	—	865 84
Weir River, Hull, Dredging . . . . .	25,000 00	130,963 51
Wessagussett Channel, Dredging . . . . .	—	815 20
Weymouth Fore River, Dredging . . . . .	8,250 00	64,219 94
Winthrop Harbor Channels, Dredging . . . . .	1,700 00	39,783 58
	<hr/>	<hr/>
	\$169,950 00	\$951,992 29



EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM DEC. 1, 1926, TO NOV. 30, 1927, UNDER CHAPTER 91 OF THE GENERAL LAWS.

Location and Character of Work.	Contributions.	Expenditures.
Allen's Harbor, Harwich, Jetties . . . . .		\$9,598 35
Connecticut River, Northfield . . . . .		1,358 00
Edgartown Harbor, Survey and cut in beach . . . . .		52 46
Ellisville Harbor, Plymouth, Dredging . . . . .		340 35
Falmouth Inner Harbor, Falmouth, Dredging . . . . .	\$15,000 00	30,642 54
Gay Head, Chilmark, Survey . . . . .		54 88
Great Pond, Survey . . . . .		539 64
Harbor Cove, Gloucester, Dredging . . . . .	3,000 00	5,760 31
Herring River, Harwich, Jetties and dredging . . . . .		154 26
Improvement of Rivers and Harbors, General expenses . . . . .		3,203 08
Lobster Cove, Gloucester, Dredging . . . . .	3,000 00	11,363 50
Menamsha Inlet, Chilmark and Gay Head, Jetties, Dredging and sea wall . . . . .		54 88
Oak Bluffs, Sea wall . . . . .		41 24
Rock Harbor, Orleans . . . . .		92 54
Rockport Harbor, Dredging and removing rocks . . . . .	500 00	—
Waquoit . . . . .		256 87
West Bay, Barnstable . . . . .		580 12
Witchmere Harbor, Harwich, Jetties and dredging . . . . .		34 72
	<u>\$21,500 00</u>	<u>\$64,127 74</u>

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1927, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF WATERWAYS AND PUBLIC LANDS, AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

Locality and Character of Work.	Contribution by Municipality or Others.	Total Expenditure.
Acushnet River, Inspection and dredging . . . . .	—	\$119,792 10
Allen's Harbor, Harwich, Surveys and jetties . . . . .	\$7,627 50	16,091 45
Allen's Pond, Dartmouth . . . . .	—	195 95
Angle Tree Monument, Reservation, ch. 289, Acts 1925 . . . . .	—	159 12
Annisquam River, Gloucester, Dredging, removing ledges and riprap . . . . .	6,250 00	141,958 21
Apponagansett Harbor and River, Dartmouth, Survey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Barnstable, Survey and dredging . . . . .	1,500 00	18,554 64
Bass River, Beverly, Dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, Jetties, dredging and survey . . . . .	2,500 00	115,390 70
Beach Street, Scituate. See Scituate.		
Beverly Harbor, Dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, Sea wall . . . . .	5,326 15	22,784 14
Bucks Creek, Chatham, Jetties, survey and dredging . . . . .	2,500 00	39,719 69
Buzzards Bay, Falmouth, Survey . . . . .	—	166 11
Cape Poge, Edgartown, Cut through beach . . . . .	16,500 00	38,639 00
Cataumet Harbor. See Megansett Harbor.		
Cedar Point, Scituate. See Scituate.		
Centerville River, Barnstable, Dredging . . . . .	1,500 00	7,603 22
Cohasset Harbor, Cohasset, Breakwater and dredging . . . . .	26,491 88	83,163 23
Concord River, Billerica, Removing boulders . . . . .	150 00	1,664 59
Connecticut River, Investigation of navigation and surveys . . . . .	—	7,074 62

<sup>1</sup> \$50,000 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contribution by Municipality or Others.	Total Expenditure.
Connecticut River, Agawam, Protective work . . . . .	—	\$18,814 42
Connecticut River, Chicopee, Survey, wall and rip- rap . . . . .	\$640 00	25,789 02
Connecticut River, Hadley, Protective work and diversion wall . . . . .	5,000 00	112,552 48 <sup>1</sup>
Connecticut River, Hatfield, Dikes and riprap . . . . .	1,000 00	14,986 79
Connecticut River, Holyoke, Marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Holyoke, Dredging and protective work . . . . .	1,991 29	9,253 27
Connecticut River, Northampton, Protective work . . . . .	—	1,524 20
Connecticut River, Northfield, Riprap . . . . .	—	5,020 28
Connecticut River, South Hadley, Wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, Protective work . . . . .	—	12,510 08 <sup>2</sup>
Conservation of Waters, Investigation . . . . .	—	59,764 54
Cotuit Harbor, Barnstable, Dredging and survey . . . . .	8,183 38	69,946 79
Cuttyhunk Harbor, Gosnold, Jetties and dredging . . . . .	9,000 00	70,754 18
Deacons Pond Harbor, Falmouth. See Falmouth Inner Harbor.		
Duxbury Bay and Harbor, Dredging . . . . .	2,000 00	42,602 29
East Bay, Osterville, Jetties, dredging, and removing scows . . . . .	10,000 00	70,924 23
Edgartown Harbor, Edgartown, Survey and cut in beach . . . . .	300 00	3,496 64
Ellisville Harbor, Plymouth, Dredging . . . . .	—	19,221 97
Essex County Beaches, Survey . . . . .	—	1,000 00
Essex River, Essex, Dredging . . . . .	—	76,304 33 <sup>3</sup>
Fall River Harbor, Improvement . . . . .	—	1,130 18
Falmouth Heights, Falmouth, Sea wall . . . . .	14,222 54	53,858 08
Falmouth Inner Harbor, Falmouth, Dredging, jetties and wall . . . . .	29,000 00	143,444 58
First and Second Cliffs, Scituate, See Scituate.		
Fresh Water Cove, Gloucester, Dredging . . . . .	3,300 00	17,477 53
Gay Head, Survey . . . . .	—	555 42
Glades, North Scituate, See Scituate.		
Gloucester, Western Avenue, Sea wall . . . . .	35,000 00	60,000 00
Gloucester Harbor, Gloucester, Dredging and re- moving ledges . . . . .	7,500 00	118,994 65
Great Ponds, Survey . . . . .	—	11,299 75
Green Harbor, Marshfield, Jetties, dredging and survey . . . . .	—	76,466 85
Gun Rock Point, Hull, Breakwater . . . . .	10,000 00	65,668 52
Harbor Cove, Gloucester, Survey and dredging . . . . .	3,866 00	25,155 04
Herring Creek, Scituate, Survey . . . . .	—	253 76
Herring River, Harwich, Jetties and dredging . . . . .	2,500 00	57,183 42
Herring River, Wellfleet, Dikes and ditches . . . . .	10,000 00	34,509 38
Housatonic River, Sheffield, Survey . . . . .	—	2,011 29
Hull, Sea walls and survey . . . . .	8,882 06	37,906 21
Humarock Beach, Scituate. See Scituate.		
Hyannisport, Barnstable, Survey and breakwater . . . . .	2,500 00	65,017 76
Improvement of Rivers and Harbors, General ex- penses . . . . .	—	29,265 94

<sup>1</sup> From 1888, inclusive.<sup>2</sup> From 1891, inclusive.<sup>3</sup> \$5,000 expended by U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contribution by Municipality or Others.	Total Expenditure.
Ipswich River, Ipswich, Jetty, wall, riprap and dredging . . . . .	\$3,800 00	\$58,989 55
King's Beach, Swampscott, Removal of obstruction . . . . .	—	166 41
Lake Anthony, Oak Bluffs, Jetties and dredging . . . . .	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, Investigation . . . . .	—	345 32
Lewis Bay, Barnstable, Survey and dredging . . . . .	—	28,963 21
Little Harbor, Marblehead, Dredging . . . . .	2,500 00	11,166 16
Little River, Gloucester, Survey . . . . .	—	862 93
Lobster Cove, Gloucester, Dredging . . . . .	4,500 00	61,603 36
Lynn Harbor, Anchorage Basin, Survey and dredging . . . . .	5,200 00	121,609 22
Lynn Harbor and Saugus River, Dredging and filling . . . . .	37,500 00	163,431 53
Manchester Harbor, Survey, jetties and dredging . . . . .	57,000 00	135,926 28
Mattapoissett Harbor, Survey . . . . .	—	255 48
Megansett Harbor, Dredging . . . . .	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, Jetties, dredging and sea wall . . . . .	700 00	94,058 77
Merrimack River, Investigation and survey . . . . .	—	1,208 50
Mill River, Gloucester, Survey and dredging . . . . .	300 00	24,899 59
Mitchell's River, Chatham, Survey and dredging . . . . .	6,000 00	23,113 92
Nahant, Survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, Dredging . . . . .	5,500 00	28,529 62
Nantucket, Survey of Sesachacha Pond . . . . .	—	110 66
Nantucket Harbor, Dredging . . . . .	5,000 00	58,982 52
Nauset Harbor and Town Cove, Dredging . . . . .	2,000 00	10,671 24
New Bedford Harbor, Dredging . . . . .	—	18,856 57
New Bedford State Pier, Pier shed and dredging . . . . .	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, Operation and maintenance . . . . .	—	45,991 82
Newburyport Harbor, Survey . . . . .	—	115 97
Nobscussett Harbor, Dennis, Breakwater, dredging and riprap . . . . .	1,200 00	39,778 84
North River, Marshfield, Surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, Survey . . . . .	—	704 52
North Scituate. See Scituate.		
Oak Bluffs, Removing rocks . . . . .	—	594 95
Oak Bluffs, Sea Wall . . . . .	27,500 00	90,321 98
Ocean Grove, Swansea, Survey . . . . .	—	143 23
Onset Bay, Wareham, Survey and dredging . . . . .	1,000 00	15,295 89
Orleans, Survey . . . . .	—	104 18
Palmer's Pond, Falmouth, Survey . . . . .	—	358 76
Pamet River, Truro, Survey, dredging and repairing jetties . . . . .	1,200 00	198,010 32
Paskamansett River, Dartmouth, Dredging and jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, Pile wharf and survey . . . . .	—	5,192 95
Pines River, Revere and Saugus, Survey . . . . .	—	904 80
Pleasant Bay, Chatham, Dredging . . . . .	600 00	2,364 33
Plum Island River, Newbury and Newburyport, Survey . . . . .	—	983 31
Plymouth Harbor, Dredging and removing old piling . . . . .	71,794 55	282,632 13 <sup>2</sup>
Plymouth Memorial Park, Maintenance . . . . .	—	17,764 63
Popponessett Bay, Barnstable and Mashpee, Dredging . . . . .	—	46,252 33
Powow River, Amesbury, Dredging channel and riprapping wall . . . . .	—	502 94

<sup>1</sup> Paid by surety company.<sup>2</sup> \$57,000 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contribution by Municipality or Others.	Total Expenditure.
Province Lands, Provincetown, Reclamation . . . . .	—	\$116,090 90
Provincetown Harbor, Shore protection . . . . .	—	28,410 11
Quansett Harbor, Orleans, Survey and dredging . . . . .	\$500 00	2,194 50
Red Brook Harbor, Orleans, Survey and dredging . . . . .	—	275 00
Revere, Stone breakwater . . . . .	—	60,397 93
Rock Harbor, Orleans, Dredging . . . . .	400 00	12,585 25
Rockport Harbor, Dredging and removing rocks . . . . .	500 00	15,555 58
Salem Harbor, Survey . . . . .	—	1,509 92
Salt Pond River, Eastham, Survey . . . . .	—	210 11
Salters Point, Dartmouth, Breakwater . . . . .	4,500 00	42,939 57
Sand Hills, Scituate. See Scituate.		
Sandwich Harbor, Dredging channel, riprap and jetties . . . . .	—	80,579 84
Saugus River, Lynn and Saugus, Survey and dredging . . . . .	2,000 00	20,845 17
Scituate Shore protection —		
Beach Street, Scituate, Wall and jetties . . . . .	17,333 52	34,782 50
Cedar Point, Scituate, Wall and breakwater . . . . .	21,446 64	37,305 40
First and Second Cliffs, Scituate, Wall and riprap . . . . .	2,297 92	13,053 52
Glades, North Scituate, Filling and riprap . . . . .	12,250 78	27,619 58
Humarock Beach, Scituate, Survey, wall and jetties . . . . .	37,816 38	56,960 63
North Scituate, Surfside, Spur jetties . . . . .	1,757 60	16,566 19
Sand Hills, Scituate, Wall and jetties . . . . .	4,511 26	12,624 06
Third Cliff, Scituate, Riprap and survey . . . . .	75,193 10	120,705 12
Scituate Harbor, Dredging . . . . .	13,300 00	125,057 83
Scorton Harbor, Sandwich, Jetty and dredging . . . . .	500 00	17,774 34
Sesuit Harbor, Dennis, Jetty . . . . .	1,500 00	24,555 10
Shirley Gut, Survey . . . . .	—	97 05
Sippican Harbor, Marion, Survey . . . . .	—	7 17
Smith's Cove, Gloucester, Survey and dredging . . . . .	3,875 00	13,466 16
South River, Salem, Dredging . . . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, Fenders and excavation . . . . .	—	203 42
Stage Harbor, Chatham, Dikes and survey . . . . .	—	10,803 01
Taunton-Brockton Waterway, Investigation . . . . .	—	5,278 18
Taunton River-Boston Harbor Canal, Survey . . . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, Survey . . . . .	—	11,786 71
Taunton River, Survey and dredging . . . . .	12,500 00	28,697 18
Third Cliff, Scituate. See Scituate.		
Vineyard Haven Harbor, Tisbury, Breakwater and dredging . . . . .	1,000 00	45,518 25
Vineyard Haven Harbor, Repairing sea wall . . . . .	2,380 50	11,945 01
Waquoit Bay, Falmouth, Breakwater, wall and bulkhead . . . . .	2,000 00	55,927 28
Wareham River, Survey and dredging . . . . .	5,000 00	42,567 93
Warrens Cove, Plymouth, Sea wall and survey . . . . .	9,713 98	25,099 86
Watch Hill, Chatham, Survey and riprap . . . . .	—	14,968 75
Wellfleet Harbor, Wellfleet, Survey and dredging . . . . .	1,500 00	17,600 29
West Bay, Barnstable and Osterville, Survey, jetties and dredging . . . . .	10,000 00	89,270 73
West Falmouth Harbor, Falmouth, Dredging and breakwater . . . . .	11,473 75	54,069 89
West Harwich, Survey . . . . .	3,000 00	11,692 65
Westfield River, Westfield, Survey and jetties . . . . .	—	6,037 29
Westport Harbor, Westport, Jetty extension . . . . .	—	19,025 07
Wild Harbor, Falmouth, Jetty and dredging . . . . .	5,000 00	36,137 71
Winthrop Shore, Sea walls and protective work . . . . .	40,500 00	80,638 73



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Concluded.*

Locality and Character of Work.	Contribution by Municipality or Others.	Total Expenditure.
Witchmere Harbor, Harwich, Jetties and dredging .	\$1,000 00	\$47,991 26
Woods Hole, Great Harbor, Falmouth, Dredging .	1,500 00	6,968 86
Wrecks, Removal from tide water . . . . .	—	10,092 22
Yarmouthport Harbor, Survey . . . . .	7,000 00	95,977 37
Totals . . . . .	\$874,288 27	\$6,084,437 27

## FEDERAL APPROPRIATIONS AND EXPENDITURES.

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1927, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present under Improvement.*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1927.)

Locality.	Expenditures.	Appropriations.
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Boston Harbor . . . . .	12,952,161 08	13,339,102 58
Gloucester Harbor . . . . .	538,183 00	538,933 00
Beverly Harbor . . . . .	193,209 88	245,590 41 <sup>1</sup>
Salem Harbor . . . . .	71,368 66	71,868 66
Lynn Harbor . . . . .	471,637 00	472,637 00
Mystic River . . . . .	306,684 84	307,184 84
Dorchester Bay and Neponset River . . . . .	95,008 00	101,908 00
Weymouth Fore River . . . . .	629,449 26	634,750 00 <sup>1</sup>
Weymouth Back River . . . . .	27,000 00	27,350 00
Plymouth Harbor . . . . .	421,184 80	433,184 80 <sup>2</sup>
Provincetown Harbor . . . . .	348,062 72	348,562 72
Pollock Rip Shoals, Nantucket Sound . . . . .	1,196,931 66	1,290,000 00
Harbor of Refuge at Nantucket . . . . .	632,280 83	633,473 50
New Bedford and Fairhaven Harbor . . . . .	935,374 66	938,110 00
Fall River Harbor . . . . .	410,690 48	412,411 49
Taunton River . . . . .	204,314 85	204,689 18
	\$19,934,441 72	\$20,500,656 18

<sup>1</sup> In addition \$100,000 has been contributed by local interests.

<sup>2</sup> In addition \$108,400 has been contributed by local interests.

TABLE No. 2. — *Localities in which Work is not now in progress.*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army.)

Locality.	Expenditures.	Appropriations.
Merrimack River. . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Martha's Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Scituate Harbor . . . . .	104,590 98	104,680 00
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Total . . . . .	\$3,764,685 67	\$3,787,270 97

*Recapitulation.*

Total of Table No. 1 . . . . .	\$19,934,441 72	\$20,500,656 18
Total of Table No. 2 . . . . .	3,764,685 67	3,787,270 97
Grand Total . . . . .	\$23,699,127 39	\$24,287,927 15

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1927.  
(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

Locality.	Expenditures.	Appropriations.
Boston Harbor proper <sup>1</sup> . . . . .	\$12,952,161 08	\$13,339,102 58
Mystic River . . . . .	306,684 84	307,184 84
Total . . . . .	\$13,258,845 92	\$13,646,287 42

<sup>1</sup> Including Chelsea Creek.



CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS, DIVISION OF  
NOVEMBER

CON- TRACT No.	Work.	Contractor.	Date.
124	Point Allerton, Hull, sea wall . .	Bradford Weston . . .	Sept. 8, 1926
141	Allen's Harbor, Harwich, timber jetties .	Starbuck and Thomas . .	Aug. 30, 1926
143	Provincetown Shore Protection . .	J. W. Nickerson . . .	Oct. 1, 1926
144	Commonwealth Pier No. 5, South Boston, painting offices, corridors, etc.	Maurice M. Devine . . .	Sept. 30, 1926
147	Commonwealth Pier No. 5, South Boston, additional drainage for concourse.	Joseph P. O'Hearn . . .	Oct. 25, 1926
149	Lobster Cove, Gloucester, dredging .	Bay State Dredging & Contracting Company.	May 12, 1927
150	Weymouth Fore River, Braintree and Weymouth, dredging.	Bay State Dredging & Contracting Company.	June 2, 1927
151	Great Head, Winthrop, sea wall and rip- rap.	Luke S. White . . .	June 29, 1927
152	Falmouth Inner Harbor, dredging .	Trimount Dredging Company .	June 13, 1927
153	Commonwealth Pier No. 5, South Boston, floating fender logs.	W. H. Ellis & Son Co. . .	Aug. 10, 1927
154	Commonwealth Pier No. 5, South Boston, building toilet room.	Joseph P. O'Hearn . . .	Sept. 7, 1927
155	Commonwealth Pier No. 5, South Boston, building additional room.	J. Slotnik Company . . .	Sept. 15, 1927
156	Commonwealth Pier No. 5, South Boston, repairs to floor surfacing.	M. F. Gaddis . . .	Sept. 20, 1927
157	Commonwealth Pier No. 5, South Boston, downspouts and drain connections at Viaduct.	Joseph P. O'Hearn . . .	Sept. 28, 1927
158	Commonwealth Pier No. 5, downspouts.	Joseph P. O'Hearn . . .	Oct. 26, 1927
159	Commonwealth Pier No. 1, East Boston, repairing timber platforms.	W. A. Norton Company . .	Oct. 26, 1927

WATERWAYS AND PUBLIC LANDS, AND IN FORCE DURING THE YEAR ENDING  
30, 1927.

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1927.	Total paid to Nov. 30, 1927.	Estimated Amount of Contract.
Completed Oct. 13, 1927	For furnishing materials and building wall, \$15 per cubic yard of concrete measured in completed work. For furnishing and placing stone riprap \$4.75 per linear foot of wall. For furnishing and placing filling back of wall, \$2.00 per cubic yard of fill. For furnishing and placing reinforcing steel and steel dowels, 4 cents per pound of steel placed. For furnishing and placing one and one-quarter inch eye bolts, \$3.00 per bolt placed.	\$48,468 36	\$72,059 26	\$67,588 00
Completed Feb. 4, 1927	For furnishing materials and building pile and timber jetties, \$19.65 per linear foot of jetty in place.	9,076 96	14,087 71	13,755 00
Completed Dec. 4, 1926	For furnishing and placing heavy stone riprap, \$6.24 for each ton of 2,000 pounds in the completed work. For furnishing and placing stone chips in back of and under the heavy riprap, \$6.24 for each ton of 2,000 pounds in the completed work.	266 81	1,778 71	4,000 00
Completed Jan. 4, 1927	Lump sum of \$2,970.00. . . . .	2,779 12	4,420 04	2,970 00
Completed Dec. 13, 1926	Lump sum of \$2,980.00. . . . .	2,980 00	2,980 00	2,980 00
Completed Aug. 3, 1927	For dredging, 51 cents per cubic yard measured in scows. For removing boulders, \$15 per cubic yard.	10,613 10	10,613 10	11,220 00
Completed Oct. 17, 1927	For dredging, 53 cents per cubic yard measured in scows. For removing boulders, \$18 per cubic yard.	29,362 69	29,362 69	30,740 00
In progress	For furnishing materials and constructing sea wall, \$18 per cubic yard of concrete measured in place in the completed work. For furnishing and placing heavy stone riprap and stone chips, \$5 per ton of 2,000 pounds in place in the completed work.	58,913 50	58,913 50	70,000 00
Completed Oct. 1, 1927	For dredging and disposing of dredged material on shore above high water line, 53 cents per cubic yard measured in place. For removing boulders, \$25 per cubic yard.	29,808 26	29,808 26	30,000 00
In progress	For furnishing, fitting and securing floating fenders: \$263 for each fender 70 ft. to 75 ft. long; \$300 for each fender 76 feet or more long. For detaching, moving, and securing in another location present fender logs, \$80 for each fender log.	1,316 65	1,316 65	1,446 00
Completed Dec. 7, 1927	Lump sum of \$3,265.00. . . . .	2,775 25	2,775 25	3,265 00
In progress	Lump sum of \$7,380.00. . . . .	5,332 05	5,332 05	7,380 00
Completed Nov. 9, 1927	Unit prices . . . . .	12,956 94	12,956 94	14,725 00
In progress	Lump sum of \$2,650.00 . . . . .	2,027 25	2,027 25	2,650 00
In progress	For new downspouts complete in place, \$92.50 each.	629 00	629 00	2,000 00
In progress	For repairing existing downspouts, \$4.00 each Unit prices . . . . .	500 82	500 82	2,263 00



# INDEX

## *Department of Public Works*

	PAGE
Appropriations . . . . .	4
Organization, under chapter 16, General Laws, as amended . . . . .	1
Personnel . . . . .	1
Recommendations for Legislation . . . . .	4
Special Reports to the Legislature . . . . .	3

## *Relating to Highways*

Advertising Signs and Devices within the Public View . . . . .	55
Bridges, in general . . . . .	28-33
Fall River-Somerset, — over Taunton River . . . . .	34
Newburyport-Salisbury, — over Merrimack River . . . . .	33
Common Carriers, Permits to use Highways . . . . .	43
Contract Prices Dec. 1, 1926, to Nov. 30, 1927 . . . . .	56
Contracts signed during the Year . . . . .	15
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties . . . . .	12
Expenditures, Summary for the Year . . . . .	11
Federal Aid in Constructing Highways . . . . .	25
Allotments to Massachusetts . . . . .	25
Mileage . . . . .	25
Statement of Road Projects . . . . .	26
General Statement as to Surveys, Plans, Estimates and other Work during the Year . . . . .	12
Highway Improvements authorized by Special Acts . . . . .	24
Expenditures during the Year in the Five Western Counties . . . . .	24
Maps, sale of . . . . .	55
Petitions, Meetings and Hearings . . . . .	12
Public Ways, exclusive of State Highways, in certain Towns . . . . .	38
Allotments or Contributions by the State and Towns . . . . .	39
Expenditures in Various Counties and Towns . . . . .	42
Towns where Work has been contracted for . . . . .	39
Southern Route . . . . .	25
State Highways . . . . .	12
Construction and Reconstruction . . . . .	15
Contracts entered into for Work in Various Municipalities . . . . .	15
Expenditures in Various Counties and Municipalities . . . . .	22
Contracts for Reconstruction in anticipation of an appropriation . . . . .	43
Maintenance and Repair . . . . .	23
Expenditures in Various Counties and Municipalities . . . . .	23
Permits issued for Opening or Occupying State Highways . . . . .	13
Petitions received during the Year . . . . .	12
Regulation of Traffic during Winter of 1926-27 . . . . .	43
Resurfacing and Widening . . . . .	13
Traffic Count . . . . .	43-54
Trees . . . . .	13
Town and County Ways . . . . .	34
Allotments or Contributions by the State, Towns and Counties . . . . .	34
Expenditures in Various Counties and Towns . . . . .	37
Towns where Work has been contracted for . . . . .	34
Type of Road and Length contracted for . . . . .	34

## *Registry of Motor Vehicles*

Accident Report Letters . . . . .	61
Aircraft Registrations . . . . .	64
Analysis of Court Abstracts received . . . . .	61
Brakes . . . . .	64

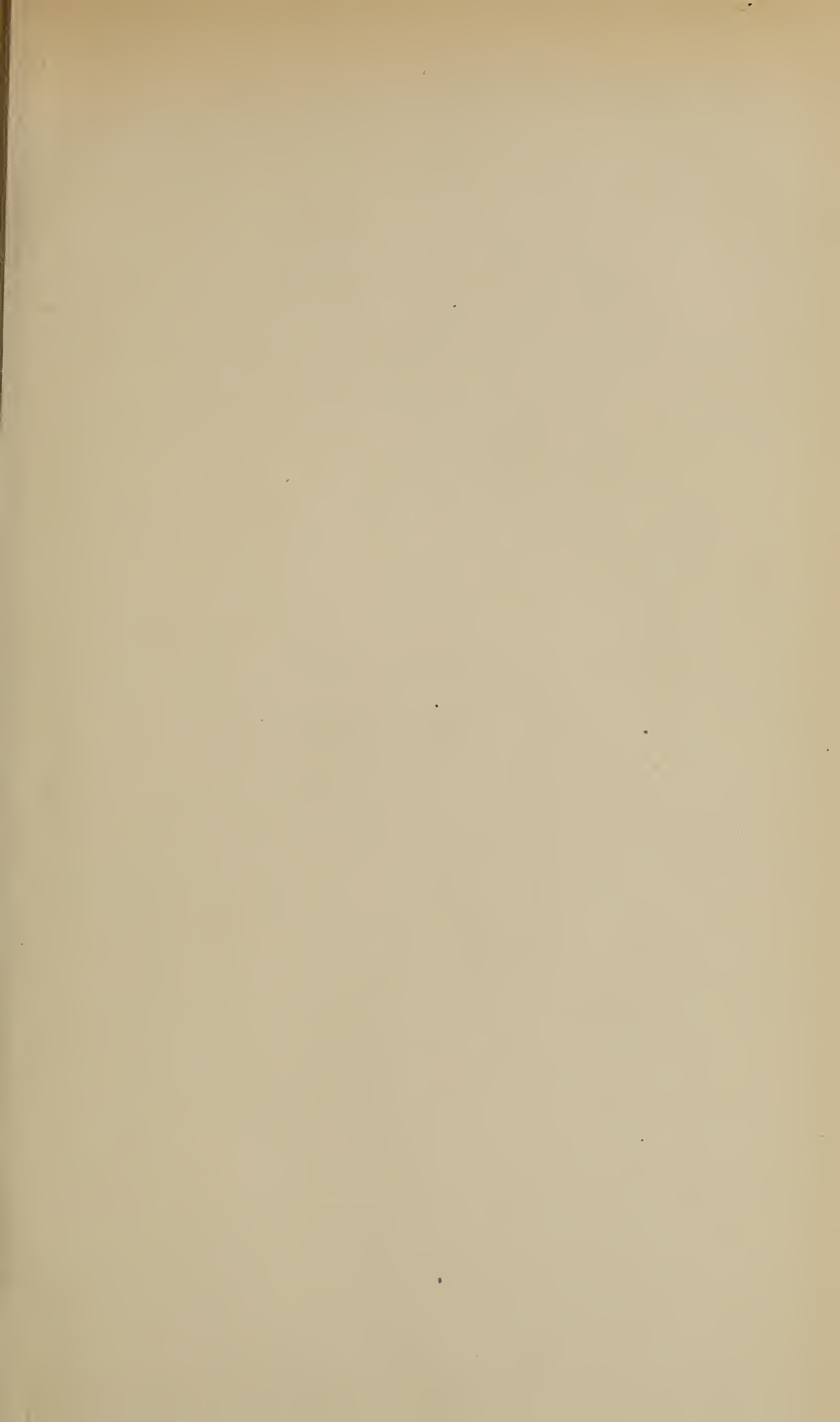
	PAGE
Branch Offices . . . . .	65
Comparative Statement for 1926 and 1927 . . . . .	68
Comparative Statement showing Ratio of Yearly Registrations to Deaths and Injuries; and Suspensions, etc. . . . .	61
Conference of Motor Vehicle Administrators . . . . .	64
Examinations for Licenses . . . . .	63
Expenditures for 1927 . . . . .	67
Headlighting . . . . .	64
Insurance, Motor Vehicle . . . . .	63
Investigations and Prosecutions by Inspectors . . . . .	61
Motor Vehicle Deaths, Injuries, Collisions . . . . .	60
Number of Children killed and injured . . . . .	60
Number of Collisions . . . . .	60
Number of Persons killed and injured . . . . .	60
Rear Lamps . . . . .	64
Registrations, Licenses, Fees . . . . .	66
Analysis of Receipts . . . . .	66
Cost of Running the Registry of Motor Vehicles . . . . .	67
Court Fines received by the Treasurer and Receiver General . . . . .	67
Motor Vehicle Fees Rebated . . . . .	67
Passenger Cars, Commercial Vehicles and Motor Cycles . . . . .	66
Total Receipts credited Highway Fund, 1927 . . . . .	67
Revocations and Suspensions for 1926-27 . . . . .	62
Used-car Section . . . . .	65
Motor Vehicle Identification . . . . .	65
Engine Numbers assigned . . . . .	65
Motor Vehicles stolen . . . . .	65
Reports . . . . .	65

*Relating to Waterways and Public Lands*

Allen's Harbor, Harwich . . . . .	72
Angle Tree Monument Reservation . . . . .	76
Beverly Harbor . . . . .	72
Boston Harbor . . . . .	69
Commonwealth Flats at East Boston . . . . .	70
Aircraft Landing Field . . . . .	70
Commonwealth Pier No. 1 . . . . .	71
Dredging and Filling . . . . .	70
Commonwealth Flats at South Boston . . . . .	69
Commonwealth Pier No. 5 . . . . .	69
Development of Land south of Summer Street . . . . .	70
Viaduct . . . . .	70
Expenditures for Development and Improvement in Boston Harbor, 1859-1927, inclusive . . . . .	80
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1927, inclusive . . . . .	81
Point Allerton Sea Wall . . . . .	71
Weymouth Fore River, Braintree and Weymouth . . . . .	71
Brant Rock, Marshfield . . . . .	72
Cape Poge Channel, Edgartown . . . . .	73
Connecticut River . . . . .	73
Conserving and Equalizing the Flow of Water in Rivers and Streams . . . . .	79
Contracts made and in force during year ending Nov. 30, 1927 . . . . .	88
Cotuit Shore Protection, Barnstable . . . . .	73
Ellisville Harbor, Plymouth . . . . .	73
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1927, excepting Boston Harbor . . . . .	82
Expenditures and Contributions for River and Harbor Work, Dec. 1, 1926, to Nov. 30, 1927 . . . . .	82
Falmouth Inner Harbor . . . . .	72



Federal Appropriations and Expenditures in Massachusetts Rivers and	
Harbors to June 30, 1927 . . . . .	86
Great Head, Winthrop . . . . .	76
Great Ponds . . . . .	77
Access to:	
Buck's or Walker's Pond, Harwich . . . . .	77
Island Creek Pond, Duxbury . . . . .	77
South Pond, Savoy . . . . .	77
Harbor Cove, Gloucester . . . . .	74
Ipswich River, Ipswich . . . . .	74
Licenses and Permits . . . . .	79
Lobster Cove, Gloucester . . . . .	74
New Bedford State Pier . . . . .	74
Plymouth, Commonwealth Property . . . . .	75
Point Shirley Sea Wall, Winthrop . . . . .	76
Port of Boston Fund . . . . .	80
Province Lands . . . . .	78
Provincetown Shore Protection . . . . .	75
Provincetown Tercentenary Commission . . . . .	75
Receipts, 1927 . . . . .	80
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor . . . . .	71
Scituate Sea Walls . . . . .	76
State Boundaries . . . . .	78
Topographical Map of Massachusetts, Boundary Atlases and Other Maps . . . . .	79
Triangulation Stations, Re-establishment of Certain . . . . .	79
West Falmouth Harbor, Falmouth . . . . .	76
Winthrop Shore . . . . .	76



















The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

FOR THE YEAR ENDING NOVEMBER 30, 1928







# The Commonwealth of Massachusetts

## DEPARTMENT OF PUBLIC WORKS

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.*

Pursuant to the provisions of law, the ninth annual report of the Department of Public Works for the fiscal year ending Nov. 30, 1928, is submitted.

The organization of the Department is defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927.

The personnel during the year ending Nov. 30, 1928, was as follows: —

Commissioner of Public Works, WILLIAM F. WILLIAMS.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, FRANK E. LYMAN.

Chief Highway Engineer, ARTHUR W. DEAN.

Highway Engineer, FRANKLIN C. PILLSBURY.

Highway Engineer, RAYMOND C. COBURN.

Highway Engineer, GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Public Works Department Secretary, MARY A. RILEY.

Financial Secretary of Department of Public Works, FRED FAIR.

### *Registry of Motor Vehicles.*

Registrar, FRANK A. GOODWIN.<sup>1</sup>

Registrar, GEORGE A. PARKER.<sup>2</sup>

Deputy Registrar, ANTHONY A. BONZAGNI.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report is presented herewith, covering the activities for the year of the Department.

WILLIAM F. WILLIAMS,  
*Commissioner of Public Works.*

DEC. 1, 1928.

### SPECIAL REPORTS TO THE LEGISLATURE.

The establishment of a Free Port within the Port of Boston. Report made Dec. 1, 1927, by the Department of Public Works, under chapter 7, Resolves of 1927. (Senate 11 of 1928.)

Dredging of Commercial Point Channel, so called, in Dorchester Bay and a channel leading therefrom to the landing of the Dorchester Yacht Club. Report made Dec. 1, 1927, by the Department of Public Works, under chapter 14, Resolves of 1927. (Senate 12 of 1928.)

<sup>1</sup>Services terminated March 2, 1928.

<sup>2</sup>Appointed March 7, 1928.



The advisability and necessity of establishing uniform traffic rules, regulations and signs, and a permanent traffic board. Report made Dec. 1, 1927, by the Department of Public Works, under chapter 17, Resolves of 1927. (House 303 of 1928.)

The construction of a bridge over the Mystic River in the city of Medford, and the alteration and improvement of tributary highways and railroad bridges. Report made Dec. 1, 1927, by the Department of Public Works, under chapter 40, Resolves of 1927. (Senate 9 of 1928.)

The cost and expediency of constructing a certain section of the so-called circumferential highway in the city of Cambridge. Report made Dec. 1, 1927, by the Department of Public Works, under section 1 of chapter 311, Acts of 1927. (House 93 of 1928.)

## RECOMMENDATIONS FOR LEGISLATION.

### *Authorizing the Department of Public Works to Collect Fees in Connection with the Issue of Permits in Relation to Highways.*

In connection with the granting of permits by the Commissioner of Public Works under the provisions of section 30 of chapter 85 and section 19 of chapter 90 of the General Laws and by the Department of Public Works for the opening up of State highways by others for any purpose under section 21 of chapter 81 of the General Laws, the Department recommends that a nominal fee of one dollar should be charged for the issuance of such permits.

### *Authorizing the Department of Public Works to Collect Fees in Connection with the Issue of Licenses in Relation to Waterways.*

In connection with the granting of licenses for structures to be built or maintained under the provisions of section 18 of chapter 91 of the General Laws, the Department recommends that it should be authorized at its discretion to charge a nominal fee of ten dollars for the issuance of such licenses.

### *To Regulate Traffic at Intersecting Ways.*

In order to clarify the law relating to right of way at intersecting ways it is recommended that the area of intersection rather than the point of intersecting ways be defined as the intersection.

### *Notice of Suspension or Revocation of a License to Operate Motor Vehicles.*

In order to reduce the clerical work involved by the present procedure, it is recommended that applicants for licenses be required to agree upon their application for the same that the mailing by the Registrar of Motor Vehicles of a notice of suspension or revocation to the last address appearing upon the records in his office be considered sufficient notice of the same.

### *Making Certain Written Demands of the Registrar of Motor Vehicles Serve as Licenses or Certificates of Registration.*

There are occasions when it is necessary to ask for the return of a license so that corrections may be made in the same, and it is recommended that the letter signed by the Registrar of Motor Vehicles requesting the return of such license be held by the licensee and held as equivalent to the license pending the re-delivery of the license, except in cases of suspension or revocation notice.

### *The Operation of Motor Vehicles.*

It is recommended that the law concerning the operating of motor vehicles while under the influence of intoxicating liquor be modified to include also operating while under the influence of exhilarating or stupefying drugs.

### *Authorizing All Police Officers to Arrest without Warrant any Person Operating under the Influence of Liquor Irrespective of his Possession of a License.*

In order to extend the authority of the police to include certain motor vehicle cases, it is recommended that all police officers other than inspectors of the Registry of Motor Vehicles may make arrest without warrant of persons driving under the influence of liquor.

### *Precautions for Safe Operation of Motor Vehicles.*

As a greater measure of precautions for the safe operation of motor vehicles, it is recommended that no person or thing whatsoever shall interfere with the driver's operation of the car or of the machinery or appliances of the same.

## APPROPRIATIONS.

Chapter 127, Acts of 1928, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

Item	<i>Requirements for Extinguishing the State Debt.</i>	
218.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million two hundred sixty-four thousand three hundred sixty-four dollars and sixty-three cents, payable from the following accounts and funds in the following amounts: — from receipts from loans for the abolition of grade crossings, the sum of thirty-four thousand dollars; from the Highway Fund, the sum of four hundred seventy-four thousand three hundred sixty-four dollars and sixty-three cents; from the balance of the receipts of the sale of the Boston dry dock, two hundred twenty-five thousand dollars; and the remainder from the general fund .	\$1,264,364 63
<i>Interest on the Public Debt.</i>		
219.	For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding one million one hundred thirty-one thousand four hundred dollars, of which sum four hundred forty-seven thousand one hundred fifty-eight dollars and seventy-three cents shall be paid from the Highway Fund . . . . .	1,131,400 00
<i>Service of the Department of Banking and Insurance.</i>		
<i>Division of Insurance:</i>		
295.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising automobile liability insurance, a sum not exceeding one hundred thirty-eight thousand five hundred dollars, of which sum not more than thirteen thousand dollars may be charged to the Highway Fund . . . . .	138,500 00
<i>Service of the Department of Public Works.</i>		
The appropriations made in the following three items are to be paid two-thirds from the Highway Fund and one-third from the Port of Boston Receipts:		
630.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . . .	19,500 00
631.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ten thousand eight hundred and fifty dollars. . . . .	10,850 00
632.	For traveling expenses of the commissioner, a sum not exceeding two thousand dollars . . . . .	2,000 00
<i>Functions of the department relating to highways.</i>		
(The following appropriations, except as otherwise provided, are made from the Highway Fund):		
633.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding seventy-five thousand five hundred dollars . . . . .	75,500 00
634.	For traveling expenses of the associate commissioners, when traveling in the discharge of their official duties, a sum not exceeding twenty-five hundred dollars . . . . .	2,500 00
635.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding thirteen thousand dollars . . . . .	13,000 00



## Item

636.	(This item combined with item 640.)	
637.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars .	\$12,000 00
638.	For the construction and repair of town and county ways, a sum not exceeding one million eight hundred thousand dollars .	1,800,000 00
639.	For aiding towns in the repair and improvement of public ways, a sum not exceeding eight hundred sixty thousand dollars .	860,000 00
640.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding six million six hundred seventeen thousand five hundred dollars .	6,617,500 00
641.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding twenty thousand dollars .	20,000 00
642.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars in addition to any other funds which the department has available for the purpose .	1,500,000 00
643.	For administering the law relative to advertising signs near highways, a sum not exceeding ten thousand dollars, to be paid from the general fund .	10,000 00
	Registration of Motor Vehicles:	
644.	For personal services, a sum not exceeding seven hundred thirty-two thousand eight hundred and eighty dollars, to be paid from the Highway Fund, provided that the salary of any person holding the position of junior clerk now receiving less than nine hundred and sixty dollars per annum may be increased after the passage of this act, and that the increase may be made effective as of December first, nineteen hundred and twenty-seven, notwithstanding any provisions of law to the contrary .	732,880 00
645.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred five thousand dollars, to be paid from the Highway Fund .	505,000 00
645a.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding fifteen hundred dollars, to be paid from the Highway Fund .	1,500 00
	Functions of the department relating to waterways and public lands:	
646.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-five thousand dollars .	55,000 00
647.	For necessary traveling expenses of the associate commissioners, a sum not exceeding five hundred dollars .	500 00
648.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding four thousand dollars .	4,000 00

## Item

649.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .	\$5,000 00
650.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding thirty-five thousand dollars. . . . .	35,000 00
651.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding sixty thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered . . . . .	60,000 00
652.	For re-establishing and permanently marking certain triangulation points and stations, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, a sum not exceeding one thousand dollars . . . . .	1,000 00
653.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the port of Boston receipts . . . . .	110,000 00
654.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the port of Boston receipts. . . . .	8,000 00
655.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding one hundred fifty thousand dollars, to be paid from the port of Boston receipts . . . . .	150,000 00
656.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars . . . . .	5,000 00
657.	For the compensation of dumping inspectors, a sum not exceeding six thousand dollars . . . . .	6,000 00
658.	For expenses authorized by section eighteen A of chapter ninety-one of the General Laws, inserted by chapter four hundred and fifty-three of the acts of nineteen hundred and twenty-three, relative to access to great ponds, a sum not exceeding one hundred dollars . . . . .	100 00
659.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars . . . . .	4,000 00

## Specials:

660. (This item omitted.)

661. (This item omitted.)



## Item

662.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding nine thousand dollars	\$9,000 00
663.	For expenses necessary to establish the Angle Tree Monument reservation, a sum not exceeding five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	500 00
Certain unexpended balances of appropriations heretofore made, and now carried upon the books in the office of the comptroller, for the construction of streets, railroads and piers for the development of land at South Boston and East Boston are hereby reappropriated.		
Certain unexpended balances of appropriations heretofore made, and now carried upon the books in the office of the comptroller, for dredging channels and filling marshes are hereby reappropriated.		
<i>Miscellaneous.</i>		
The following items are to be paid from the Highway Fund:		
684.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred thirty-three thousand five hundred dollars, representing the state's portion or one half of the estimated cost of maintenance	233,500 00
685.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing	50,000 00
685a.	For completing the Old Colony boulevard, so-called, as authorized by chapter three hundred and sixty of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of completion	100,000 00
686.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twenty-five thousand dollars, representing the state's portion or one half of the estimated cost	25,000 00
687.	For acquiring, with the approval of the governor and council, certain land along the Charles river, and for filling necessary for the laying out of the boulevard authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of construction in part, the same to be in addition to any amount heretofore appropriated for the purpose	50,000 00
688.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding thirty-six hundred dollars	3,600 00

*DEFICIENCIES.*

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Department of Public Works:*

Functions of the department relating to highways:

For the care, repair and storage, replacement and purchase of road-building machinery and tools, the sum of one hundred thirty-six dollars and nine cents, to be paid from the Highway Fund.

## Item

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, the sum of five hundred seventeen dollars and thirty cents, to be paid from the Highway Fund . . . \$517 30

*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

- |        |  |            |
|--------|--|------------|
| 707.   | For services and expenses of the division of metropolitan planning, as authorized by chapter three hundred and ninety-nine of the acts of nineteen hundred and twenty-three, a sum not exceeding thirty thousand dollars . . . . .   | 30,000 00  |
| 709.   | For maintenance of the Wellington bridge, a sum not exceeding ten thousand eight hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-eight . . . . .   | 10,800 00  |
| 710.   | For maintenance of boulevards and parkways, a sum not exceeding two hundred thirty-three thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-four . . . . .  | 233,500 00 |
| 710½.  | For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-five . . . . .  | 50,000 00  |
| 710½a. | For completing the Old Colony boulevard, so-called, as authorized by chapter three hundred and sixty of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, the same to be taken from the Metropolitan Parks Expense Fund, and to be in addition to any appropriation heretofore made for the purpose, and in addition to the amount appropriated in item six hundred and eighty-five A . . . . . | 100,000 00 |
| 711.   | For acquiring, with the approval of the governor and council, certain land along the Charles river, and for filling necessary for the laying out of the boulevard authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-seven . . . . .                        | 50,000 00  |
| 712.   | For maintenance of boulevards and parkways, for the installation of a certain lighting system, a sum not exceeding twenty-five thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-six . . . . .  | 25,000 00  |

Chapter 405, Acts of 1928, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows: —

*Service of Special Legislative Investigations.*

- |      |  |            |
|------|--|------------|
| 30m. | For expenses of a special commission to investigate relative to the lighting of state and other highways, as authorized by chapter forty-three of the resolves of the present year, a sum not exceeding one thousand dollars . . . . . | \$1,000 00 |
|------|--|------------|



Item

*Service of the Department of Public Works.*

Functions of the department relating to highways  
(the following appropriations are made from the  
Highway Fund):

640a.	For the settlement of a certain claim, as recommended by and with the approval of the attorney general's department, under a contract for highway construction, executed by the department of public works, a sum not exceeding twenty-six hundred fifty-eight dollars and one cent	\$2,658 01
642a.	For the construction of a certain traffic artery in the city of Cambridge, as authorized by chapter three hundred and sixty-six of the acts of the present year, a sum not exceeding two hundred sixty-two thousand five hundred dollars	262,500 00
	Registration of Motor Vehicles:	
644.	For personal services, a sum not exceeding five thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	5,000 00
	Functions of the department relating to waterways and public lands:	
652a.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred and sixty-six dollars	566 00
	Specials:	
659a.	For expenses of certain repairs in the sea-wall at Castle Island in Boston Harbor, by the department of public works, as authorized by chapter twenty-two of the resolves of the present year, a sum not exceeding eight thousand dollars, to be paid from the port of Boston receipts	8,000 00
659b.	For expenses of repairs on account of flood damage, as authorized by chapter three hundred and ten of the acts of the present year, a sum not exceeding sixty thousand dollars	60,000 00
	<i>Metropolitan District Commission (Highway Fund).</i>	
685b.	For maintenance of boulevards and parkways, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, a sum not exceeding twenty-seven hundred and fifty dollars, representing the state's portion or one quarter of the total deficiency, to be paid from the Highway Fund	2,750 00
685c.	For expenses of providing for the installation of certain electric lighting equipment for the West Roxbury parkway, as authorized by chapter two hundred and ten of the acts of the present year, a sum not exceeding five thousand dollars, to be paid from the Highway Fund	5,000 00

## DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Service of the Department of Public Works.*

Functions of the department relating to highways:

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, the sum of sixty-five dollars and thirty-three cents, to be paid from the Highway Fund

65 33

Registration of Motor Vehicles:

For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, the sum of nineteen dollars and twenty cents, to be paid from the Highway Fund . \$19 20

*Metropolitan District Commission.*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law:

707.	For services and expenses of the division of metropolitan planning, as authorized by chapter three hundred and ninety-nine of the acts of nineteen hundred and twenty-three, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	2,000 00
710 $\frac{1}{2}$ b.	For maintenance of boulevards and parkways, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, a sum not exceeding eighty-two hundred and fifty dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-five b, provided that fifty-five hundred dollars of this sum shall be assessed upon the cities of Boston and Quincy and the counties of Norfolk and Plymouth in accordance with the percentages fixed by section two of chapter two hundred and thirty-eight of the General Acts of nineteen hundred and nineteen . . . . .	8,250 00
712a.	For maintenance of boulevards and parkways, for expenses of providing for the installation of certain electric lighting equipment for the West Roxbury parkway, as authorized by chapter two hundred and ten of the acts of the present year, a sum not exceeding five thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-five c. . . . .	5,000 00
712d.	For the construction of a certain traffic artery in the city of Cambridge, for the metropolitan parks district, as authorized by chapter three hundred and sixty-six of the acts of the present year, a sum not exceeding one hundred thirty-one thousand two hundred and fifty dollars, to be assessed upon the cities and towns of said district in proportion to their taxable valuations, the same to be in addition to the amount appropriated in item six hundred and forty-two a. . . . .	131,250 00
712e.	For the construction of an underpass under the drive on the Quincy shore reservation in the city of Quincy, for the metropolitan parks district, a sum not exceeding twelve thousand dollars, of which sum one half shall be paid by the city of Quincy and assessed as a part of the state tax, as authorized by chapter one hundred and ninety of the acts of the present year . . . . .	12,000 00

OTHER MISCELLANEOUS.

*Service of the Department of Public Works.*

642a.	For the construction of a certain traffic artery in the city of Cambridge, as authorized by chapter four hundred of the acts of the present year, a sum not exceeding seventy-five thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	75,000 00
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712d.

For the construction of a certain traffic artery in the city of Cambridge, for the metropolitan parks district, as authorized by chapter four hundred of the acts of the present year, a sum not exceeding thirty-seven thousand five hundred dollars to be assessed upon the cities and towns of said district in proportion to their taxable valuations, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .

\$37,500 00

Service of the Department of Public Works.

642.

For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding eighty-five thousand dollars, to be paid from the Highway Fund, and to be in addition to any other funds which the department has available for the purpose . . . . .

85,000 00

EXPENDITURES RELATING TO HIGHWAYS.

The expenditures by the Department for highways under the General Laws and other acts and chapters 127 and 405, Acts of 1928, making appropriations therefor, during the fiscal year ending Nov. 30, 1928, were as follows: —

For construction of State highways, under chapter 81, General Laws . . . . .	\$2,353,721 85
For maintenance and repair of State highways, under section 13, chapter 81, General Laws . . . . .	6,671,903 04
For construction and repair of town and county ways, under section 34, chapter 90, General Laws, as amended . . . . .	1,727,710 87
For highways in the five western counties, under chapter 221, General Acts of 1915 and chapter 572, Acts of 1920 . . . . .	48,176 16
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws, as amended . . . . .	840,140 69
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925, and section 4, chapter 369 and chapter 398, Acts of 1926 . . . . .	167,545 39
For administering the law relative to advertising signs near highways . . . . .	7,225 19
For the construction of the Cambridge Artery, under chapter 366, Acts of 1928 . . . . .	6,010 73
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912 . . . . .	4,500 21
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street in Fall River, under chapter 717, Acts of 1912 . . . . .	15,927 24
For the care, repair and storage, replacement and purchase of road-building machinery and tools . . . . .	21,321 19
For the suppression of gypsy and brown-tail moths on State highways . . . . .	12,000 00
For general expenses . . . . .	84,891 76
For the settlement of claims, — Item 640a, chapter 405, Acts of 1928 . . . . .	2,658 01
Total . . . . .	\$11,963,732 33

CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES.

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34, chapter 90, General Laws, as amended by section 1,

chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$2,677,308.06 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

PETITIONS, MEETINGS AND HEARINGS.

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the relocation of street railway tracks in East Longmeadow, Boston, Dedham, Chicopee, Salem, Groveland and West Newbury; on petitions for the amendment or revision of permits for the operation of bus lines in 31 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 71 cases; on the matter of outdoor advertising in 3 cases; and on special motor regulations.

Petitions were received and contracts signed during the year, as follows: —

	Petitions.	Contracts.
State highways . . . . .	19	67
Work under section 34, chapter 90, General Laws, as amended	85	282
Work under section 26, chapter 81, General Laws, as amended	164	163
Work done under Special Acts . . . . .		1
	<hr/>	<hr/>
Totals . . . . .	268	513

GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES  
AND OTHER WORK DURING THE YEAR.

*State Highways.* — During the year ending Nov. 30, 1928, the Department completed construction on 31.223 miles of State highway, portions of which were laid out in 1927. Construction was begun, but not completed, on about 31 miles of road in 22 cities and towns. Layouts were made of 37.461 miles of State highway in 25 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 18.096 miles of State highway were discontinued or abandoned. The total length of State highway at the end of the year was 1609.108 miles.

*Surveys, Plans and Estimates.* — During the year preliminary surveys, plans and estimates were made as follows: —

*For State Highway Construction.* — Preliminary surveys in 22 towns, 31.149 miles; plans in 18 towns, 29.467 miles; preliminary estimates in 23 towns, 43.793 miles; lines and grades in 21 cities and towns, 37.032 miles; and final surveys and estimates in 17 towns, 18.859 miles.

*For State Highway Reconstruction and Resurfacing.* — Preliminary surveys in 79 towns, 117.082 miles; plans in 68 towns, 117.252 miles; preliminary estimates in 74 towns, 125.896 miles; lines and grades in 73 towns, 119.055 miles; final surveys and estimates in 50 towns, 82.099 miles.

Under section 34, chapter 90, General Laws, as amended: — Preliminary surveys in 101 towns, 95.836 miles; plans in 74 towns, 66.338 miles; preliminary estimates in 100 towns, 81.857 miles; lines and grades in 135 towns, 102.956 miles; final surveys and estimates in 68 towns, 66.742 miles.

Under chapter 45, Resolves of 1928. Preliminary surveys and plans in 2 towns, 1.136 miles.

Under chapter 46, Resolves of 1928. Preliminary surveys, plans and estimates in 3 towns, 5.675 miles.

Under chapter 221, General Acts of 1915. Preliminary survey and plans, estimates and stakes in 1 town, 1.970 miles; final surveys and estimates in 1 town, 1.970 miles.

Under chapter 259, Acts of 1928. Preliminary surveys, plans and estimates in 1 city, 0.379 miles.



Under chapter 366, Acts of 1928. Preliminary survey, plans and estimates in 1 city, 1.736 miles.

*For Roads to be Constructed by Towns.* — Preliminary surveys in 5 towns, 0.954 miles; preliminary estimates in 2 towns, 0.501 miles; plans in 2 towns, 0.379 miles. Lines and grades in 3 towns, 0.596 miles; final survey and estimates in 1 town, 0.268 miles.

*State Highway Reconnaissance.* — Surveys in 16 towns, 70 miles.

*Chapter 90 Reconnaissance.* — Surveys and plans, 0.322 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 5 towns.

*Roads constructed in 1928.* — Construction has been completed on 31.223 miles of State highway; 135.807 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended; and 1.612 miles of highways under the provisions of special acts, making a total of 168.642 miles completed during the year.

Of the above roads completed this year 45.429 miles were of gravel; 20.286 miles were of bituminous concrete; 67.176 miles of bituminous macadam; 7.258 miles of reinforced concrete; 21.456 miles of gravel with a bituminous treatment; 2.151 miles of earth; 0.144 miles of granite block; 1.274 miles of waterbound macadam; 0.923 miles of waterbound macadam with a bituminous treatment; and 2.545 miles were of dual type (reinforced concrete and bituminous macadam, 1.875 miles; and reinforced concrete and bituminous concrete, 0.670 miles).

*Resurfacing, Reconstruction and Widening.* — During the year 3.744 miles of State highway were widened, but not resurfaced; and 107.825 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 79.503 miles were of bituminous macadam; 14.925 miles were of bituminous concrete; 8.003 miles of reinforced concrete; 2.741 miles of waterbound macadam; 0.144 miles of granite block; and 2.509 miles were of dual type (reinforced concrete and bituminous macadam).

*Permits.* — There were 1,889 permits issued during the year for opening or occupying State highways for various purposes.

*Trees on State Highways.* — During the last twenty-four years 56,127 trees have been planted on the borders of State highways. The Department has placed 1,569 trees this year, continuing its policy of planting quick-growing trees and hedges to replace guard rails.

*Engineering Advice to Municipal Authorities.* — The Department furnished, without charge, engineering advice to 20 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.* — The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 22 towns and cities.

*Approval of Bridge Plans.* — The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 6 towns and cities.

## STATE HIGHWAYS.

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

**SELECTMEN OF WHATELY.** — Road locally known as the River Road, extending from the dividing line between the towns of Deerfield and Whately to the dividing line between the towns of Whately and Hatfield. Received Dec. 2, 1927.

- MAYOR AND BOARD OF ALDERMEN OF HOLYOKE. — Road extending from a point about 500 feet east of the high service reservoir in Holyoke to the College Highway in the city of Westfield. Received Feb. 1, 1928.
- SELECTMEN OF GRAFTON. — Road locally known as Worcester and Upton Streets, extending from a point at the foot of Worcester Hill in Grafton Centre near the intersection of Worcester Street and the Providence Road to a point about 200 feet easterly of the Grafton and Upton Railroad. Received Mar. 12, 1928.
- MAYOR AND CITY COUNCIL OF WESTFIELD. — Road locally known as the North Road, extending from the College Highway at a point a little southerly of the dwelling of one Seher to the dividing line between the cities of Westfield and Holyoke. Received Mar. 9, 1928.
- COUNTY COMMISSIONERS OF WORCESTER COUNTY. — Road extending from a point near Powers Mills in Phillipston southeasterly, in part over a new location, to the existing State highway in the village of Templeton. Received Apr. 3, 1928.
- COUNTY COMMISSIONERS OF WORCESTER COUNTY. — Road extending from the existing State highway in Charlton City in the town of Charlton, southwesterly in the towns of Charlton and Sturbridge, in part over the Old Turnpike, so called, and in part over new locations, to the existing State highway between the villages of Sturbridge and Fiskdale, including two connections with said State highway. Received Apr. 3, 1928.
- SELECTMEN OF BRIMFIELD. — Road extending from the dividing line between the towns of Monson and Brimfield to a point on the existing State highway in Brimfield Village. Received Mar. 28, 1928.
- SELECTMEN OF AMESBURY. — Road extending from the junction of Haverhill and Main Streets easterly, over a new location, to a point on Elm Street, east of the Boston & Maine Railroad Crossing. Received Apr. 4, 1928.
- COUNTY COMMISSIONERS OF BARNSTABLE COUNTY. — Road in Falmouth, extending from a point about one mile north of Falmouth Village northwesterly, over a new location, between the railroad and Long Pond for about a mile, and again extending from a point near the railroad crossing about two miles south of the Bourne-Falmouth line northeasterly, easterly of the railroad, to a point near the Bourne-Falmouth line. Received Apr. 6, 1928.
- COUNTY COMMISSIONERS OF BARNSTABLE COUNTY. — Road in Falmouth, extending from a point near the junction of the County Road and Falmouth Heights Avenue in Falmouth Village to the dividing line between the towns of Falmouth and Mashpee. Received Apr. 6, 1928.
- SELECTMEN OF SCITUATE. — Road extending from the existing State highway at Greenbush, over a new location, to the dividing line between the towns of Scituate and Cohasset. Received Apr. 5, 1928.
- SELECTMEN OF WEST STOCKBRIDGE. — Road locally known as Albany Street, extending from the dividing line between the towns of Richmond and West Stockbridge to West Stockbridge Village. Received May 31, 1928.
- SELECTMEN OF GROVELAND. — Road extending from a point on Main Street near the property of Thomas E. Snell northeasterly, over a new location, to a point on Main Street near the property of James A. Downey. Received June 21, 1928.
- SELECTMEN OF BILLERICA, CHELMSFORD AND BEDFORD. — Road locally known as the Boston Road in Chelmsford and the Nashua Road in Billerica, extending from the Hall Road in Chelmsford to a point a short distance beyond the dividing line between the towns of Billerica and Bedford. Received June 21, 1928.
- SELECTMEN OF TEMPLETON. — Road locally known as the Athol Road, extending from Templeton Village to the Baldwinville Road at Shepardson's Corner. Received July 13, 1928.
- SELECTMEN OF TEMPLETON. — Road extending from the Gardner Road through East Templeton to the dividing line between the town of Templeton and the city of Gardner. Received July 14, 1928.



SELECTMEN OF MANSFIELD. — Road extending from the dividing line between the towns of Norton and Mansfield, over a new location, to a point about one half mile northerly from said town line. Received Aug. 2, 1928.

SELECTMEN OF RUSSELL. — Road locally known as the River Road, extending from the dividing line between the city of Westfield and the town of Russell northwesterly for a distance of about 17,800 feet to a point near the property of Floyd Hilbert. Received Sept. 11, 1928.

SELECTMEN OF WRENTHAM. — Road locally known as West Street, extending from South Street at Wampum Corner to Hancock Street at Sheldonville. Received Sept. 20, 1928.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS.

(Chapter 81, General Laws, as amended.)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

##### *Amherst.*

Dec. 27, 1927, contract made with Warner Brothers, of Sunderland, for reconstructing about 11,091 feet of State highway on the Notch Road, the surface consisting of bituminous macadam. The proposal amounted to \$68,019.40. Work completed Aug. 14, 1928. Expenditure during 1928, \$68,668.97.

##### *Dudley.*

Dec. 27, 1927, contract made with G. Rosse & Son, of Leominster, for reconstructing about 16,532 feet of State highway on the State Road, the surface consisting of bituminous macadam. The proposal amounted to \$127,037.00. Work completed Nov. 27, 1928. Expenditure during 1928, \$117,880.09.

##### *Rockland.*

Dec. 27, 1927, contract made with Bradford Weston, of Hull, for reconstructing about 12,429 feet of State highway on Centre Avenue and Market Street, the surface consisting of bituminous macadam. The proposal amounted to \$68,705.00. Work completed Aug. 14, 1928. Expenditure during 1928, \$72,865.39.

##### *Dalton-Pittsfield.*

Dec. 27, 1927, contract made with Kelleher Corporation, of Montague, for reconstructing about 12,650 feet of State highway on the Hinsdale Road in Dalton and about 2,350 feet of State highway on the same road in Pittsfield, the surface consisting of bituminous macadam. The proposal amounted to \$137,018.15. Work completed Sept. 18, 1928. Expenditure during 1928, \$134,233.91.

##### *Townsend.*

Jan. 10, 1928, contract made with the Guaranty Construction Company, of Shirley, for reconstructing about 20,209 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$117,455.20. Work completed Sept. 18, 1928. Expenditure during 1928, \$99,398.31.

##### *Bellingham-Franklin.*

Jan. 10, 1928, contract made with Coleman Bros., Inc., of Boston, for reconstructing about 13,620 feet of State highway on Mendon and Mechanic Streets in Bellingham, and about 13,517 feet of State highway on West Central Street in Franklin, the surface consisting of bituminous macadam. The proposal amounted to \$201,193.25. Work completed Nov. 30, 1928. Expenditure during 1928, \$188,842.00.

##### *Gardner-Westminster.*

Feb. 7, 1928, contract made with the Interstate Highway Construction Corporation, of Quincy, for reconstructing about 5,200 feet of State highway on the Westminster Road in Gardner and about 14,332 feet of State highway on the same road in Westminster, the surfacing consisting of bituminous macadam. The proposal amounted to \$121,877.80. Work completed Nov. 3, 1928. Expenditure during 1928, \$101,671.09.

##### *Salisbury.*

Feb. 7, 1928, contract made with the Interstate Highway Construction Corporation, of Quincy, for reconstructing about 12,699 feet of State highway on the

Lafayette Highway, the surface consisting of bituminous macadam. The proposal amounted to \$102,760.50. Work completed July 17, 1928. Expenditure during 1928, \$99,606.55.

*Malden-Melrose-Saugus-Lynnfield.*

Feb. 28, 1928, contract made with the M. McDonough Company, of Swampscott, for resurfacing and widening about 792 feet of State highway on the Newburyport Turnpike in Malden, about 925 feet of State highway on said turnpike in Melrose, about 20,958 feet of State highway on said turnpike in Saugus, and about 5,593 feet of State highway on said turnpike in Lynnfield, the surface consisting of bituminous macadam in Malden, Melrose and a portion of Saugus, and of bituminous concrete in a portion of Saugus and in Lynnfield. The proposal amounted to \$222,215.30. Work completed Nov. 20, 1928. Expenditure during 1928, \$229,934.06.

*Marlborough.*

Apr. 10, 1928, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 13,249 feet of State highway on the Boston-Worcester Road, the surface consisting of two strips of reinforced cement concrete separated by a section of bituminous macadam for about 11,319 feet, and of reinforced cement concrete with bituminous shoulders for about 1,930 feet. The proposal amounted to \$185,822.05. Work completed Oct. 30, 1928. Expenditure during 1928, \$203,167.78.

*Dracut.*

Apr. 24, 1928, contract made with Antonio Pallotto, of Dracut, for constructing about 1,935 feet of State highway on Willard Street, the surface consisting of bituminous macadam. The proposal amounted to \$13,210.50. Work completed July 3, 1928. Expenditure during 1928, \$13,529.88.

*Needham.*

Apr. 24, 1928, contract made with the State Construction Company, Inc., of Somerville, for reconstructing about 5,300 feet of State highway on Chestnut Street, the surface consisting of bituminous macadam. The proposal amounted to \$28,953.00. Work completed July 31, 1928. Expenditure during 1928, \$25,841.35.

*Deerfield.*

May 1, 1928, contract made with the Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 11,958 feet of State highway on the Northampton Road, the surface consisting of bituminous macadam. The proposal amounted to \$78,022.50. Work completed Oct. 23, 1928. Expenditure during 1928, \$83,738.31.

*Becket.*

May 1, 1928, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 12,933 feet of State highway on the North Becket-Washington Road, the surface consisting of bituminous macadam. The proposal amounted to \$183,941.10. Work about five sixths completed. Expenditure during 1928, \$152,426.36.

*Bourne.*

May 8, 1928, contract made with Antonio Carchia & Sons, of Marshfield, for reconstructing about 5,300 feet of State highway on the Buzzards Bay Road, the surface consisting of bituminous macadam. The proposal amounted to \$36,905.50. Work completed Oct. 2, 1928. Expenditure during 1928, \$32,108.73.

*Lee.*

May 8, 1928, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 300 feet of State highway on the Becket Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$2,502.00. Work completed June 20, 1928. Expenditure during 1928, \$2,493.42.

*Colrain.*

May 15, 1928, contract made with Perini & Ampollini, of Plainville, for constructing and reconstructing about 10,640 feet of State highway on the Shelburne



Falls Road, the surface consisting of bituminous macadam. The proposal amounted to \$94,119.40. Work completed Nov. 20, 1928. Expenditure during 1928, \$77,183.53.

*Upton.*

May 22, 1928, contract made with Robert Costa, of Milford, for reconstructing a bridge and approaches on about 365 feet of State highway on West Main Street, the surface consisting of bituminous concrete. The proposal amounted to \$12,357.86. Work completed Oct. 30, 1928. Expenditure during 1928, \$9,929.69.

*Watertown.*

May 22, 1928, contract made with Thomas Joseph McCue, of Watertown, for widening about 4,490 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$17,881.00. Work completed Sept. 11, 1928. Expenditure during 1928, \$22,052.81.

*Falmouth.*

May 15, 1928, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing and reconstructing about 31,444 feet of State highway on the North Shore Road, the surface consisting of bituminous concrete. The proposal amounted to \$162,607.25. Work practically completed. Expenditure during 1928, \$133,126.22.

*Falmouth-Mashpee.*

May 22, 1928, contract made with Sidney W. Lawrence, of Falmouth, for constructing and reconstructing about 34,006 feet of State highway on the Mashpee Road in Falmouth, and about 9,250 feet of State highway on the same road in Mashpee, the surface consisting of bituminous concrete. The proposal amounted to \$214,053.00. Work about two thirds completed. Expenditure during 1928, \$145,585.35.

*Williamstown.*

June 5, 1928, contract made with the Kelleher Corporation, of Montague, for constructing about 4,034 feet of State highway on the Pownal Road, the surface consisting of bituminous macadam. The proposal amounted to \$62,100.00. Work completed Sept. 11, 1928. Expenditure during 1928, \$59,119.02.

*Great Barrington.*

June 12, 1928, contract made with David W. Dwyer, of Dalton, for constructing a bridge and approaches on about 975 feet of State highway on Maple Avenue, the surface consisting of bituminous concrete on the bridge and bituminous macadam on the approaches. The proposal amounted to \$23,344.75. Work about one half completed. Expenditure during 1928, \$12,033.69.

*North Adams.*

May 29, 1928, contract made with John R. Button & Son, of North Adams, for reconstructing about 200 feet of State highway on the Williamstown Road, the surface consisting of reinforced cement concrete. Work completed June 26, 1928. Expenditure during 1928, \$3,757.15.

*Reading.*

June 13, 1928, contract made with James H. Goss, of Lynn, for widening about 930 feet of State highway on North Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$9,134.55. Work completed Sept. 4, 1928. Expenditure during 1928, \$8,497.90.

*Charlton-Oxford.*

June 19, 1928, contract made with Frank Lanza & Sons, of Boston, for reconstructing about 1,925 feet of State highway on the Oxford Road in Charlton, and about 3,500 feet of State highway on the Charlton Road in Oxford, the surface consisting of bituminous macadam. The proposal amounted to \$36,072.25. Work completed Oct. 23, 1928. Expenditure during 1928, \$40,873.91.

*Dedham.*

June 19, 1928, contract made with Simpson Bros. Corporation, of Boston, for constructing about 3,600 feet of State highway on Washington Street, the surface

consisting of reinforced cement concrete. The proposal amounted to \$145,700.00. Work about three fourths completed. Expenditure during 1928, \$103,640.71.

*Amesbury.*

June 20, 1928, contract made with Frank Lanza & Sons, of Boston, for constructing about 7,019 feet of State highway on Macy Street, the surface consisting of bituminous macadam. The proposal amounted to \$156,465.65. Work practically completed. Expenditure during 1928, \$129,906.52.

*Leicester-Spencer-West Brookfield.*

June 19, 1928, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 375 feet of State highway on the Spencer Road in Leicester, about 8,450 feet of State highway on the same road in Spencer, and about 2,326 feet of State highway on the same road in West Brookfield, the surface consisting of bituminous macadam. The proposal amounted to \$127,500.20. Work completed Nov. 30, 1928. Expenditure during 1928, \$110,741.19.

*Dighton-Taunton.*

July 3, 1928, contract made with Charles E. Horne, of Millbury, for reconstructing about 9,888 feet of State highway on Somerset Avenue in Dighton, and about 7,165 feet of State highway on the same road in Taunton, the surface consisting of bituminous macadam. The proposal amounted to \$113,171.50. Work completed Nov. 6, 1928. Expenditure during 1928, \$107,144.96.

*Duxbury.*

July 10, 1928, contract made with the Chelmsford Forge & Iron Works, of Lowell, for reconstructing about 829 feet of State highway on Summer and South Streets at the Tree of Knowledge Corner, the surface consisting of bituminous macadam. The proposal amounted to \$8,942.10. Work completed Aug. 21, 1928. Expenditure during 1928, \$8,437.58.

*Amherst-Hadley.*

July 10, 1928, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 10,739 feet of State highway on the Amherst Road in Hadley, and about 5,126 feet of State highway on Northampton Street in Amherst, the surface consisting of bituminous macadam. The proposal amounted to \$97,256.50. Work completed Nov. 27, 1928. Expenditure during 1928, \$76,399.08.

*Charlton-Sturbridge.*

July 10, 1928, contract made with Raymond A. Bergesson, of Woonsocket, R. I., for grading about 13,823 feet of State highway on the Brimfield Road in Sturbridge and about 15,870 feet of State highway on the same road in Charlton. The proposal amounted to \$199,745.25. Work about two thirds completed. Expenditure during 1928, \$138,346.65.

*Dartmouth-Westport.*

July 17, 1928, contract made with Greany & Sherry, Inc., of Fall River, for reconstructing about 16,479 feet of State highway on the Fall River Road in Westport, and about 2,065 feet of State highway on the New Bedford Road in Westport and Dartmouth, the surface consisting of bituminous macadam for about 7,365 feet and of reinforced cement concrete for about 11,179 feet. The proposal amounted to \$138,886.50. Work completed Nov. 6, 1928. Expenditure during 1928, \$120,228.86.

*Newburyport.*

July 17, 1928, contract made with Welch & Moynihan Company, of Salem, for reconstructing about 9,253 feet of State highway on Storey Avenue, the surface consisting of bituminous macadam. The proposal amounted to \$52,943.70. Work completed Nov. 30, 1928. Expenditure during 1928, \$44,886.41.

*Littleton.*

July 10, 1928, contract made with the Greenough Construction Company, of Acton, for reconstructing about 950 feet of State highway on the Littleton-Groton Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$9,344.00. Work completed Oct. 16, 1928. Expenditure during 1928, \$9,929.60.



*Groveland.*

July 17, 1928, contract made with M. McDonough Company, of Swampscott, for constructing and reconstructing about 8,862 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$71,-904.00. Work completed Nov. 30, 1928. Expenditure during 1928, \$65,317.73.

*Florida.*

July 17, 1928, contract made with The Lane Construction Corporation of Meriden, Conn., for reconstructing about 14,400 feet of State highway on the Mohawk Trail, the surface consisting of waterbound macadam. The proposal amounted to \$131,374.50. Work completed Nov. 30, 1928. Expenditure during 1928, \$115,737.42.

*Dalton-Sandisfield-Tolland-Sheffield-Lee.*

July 24, 1928, contract made with James S. Heyson, of Waverley, for cleaning and painting four bridges in Dalton, Sandisfield, Tolland, Sheffield and Lee. The proposal amounted to \$1,800.00. Work completed Aug. 21, 1928. Expenditure during 1928, \$1,800.00.

*Brimfield-Monson.*

July 24, 1928, contract made with Arute Brothers, Inc., of New Britain, Conn., for constructing and reconstructing about 25,231 feet of State highway on the Springfield Road in Brimfield, and about 1,096 feet of State highway on the same road in Monson, the surface consisting of bituminous macadam. The proposal amounted to \$222,104.10. Work about one half completed. Expenditure during 1928, \$124,146.02.

*Palmer.*

July 24, 1928, contract made with the New Haven Road Construction Company, Inc., of New Haven, Conn., for constructing about 2,450 feet of State highway on a new location, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$91,155.55. Work about three tenths completed. Expenditure during 1928, \$29,460.27.

*Chicopee.*

July 24, 1928, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 4,850 feet of State highway on the Rockrimmon Road, the surface consisting of reinforced cement concrete. The proposal amounted to \$96,581.50. Work completed Nov. 20, 1928. Expenditure during 1928, \$69,295.86.

*Barre.*

July 31, 1928, contract made with H. & J. P. Green Company, Inc., of Worcester, for reconstructing about 6,661 feet of State highway on Summer Street, the surface consisting of bituminous macadam. The proposal amounted to \$54,810.30. Work completed Nov. 27, 1928. Expenditure during 1928, \$46,878.50.

*Templeton.*

Aug. 7, 1928, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Conn., for constructing about 17,065 feet of State highway on the Athol Road, the surface consisting of bituminous macadam. The proposal amounted to \$147,-714.70. Work about two fifths completed. Expenditure during 1928, \$57,829.95.

*Templeton.*

Aug. 7, 1928, contract made with James J. McHugh, of Leicester, for constructing about 3,000 feet of State highway on the South Gardner Road, the surface consisting of bituminous macadam. The proposal amounted to \$25,334.90. Work completed Nov. 20, 1928. Expenditure during 1928, \$22,743.45.

*Richmond-West Stockbridge.*

Aug. 14, 1928, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 10,303 feet of State highway on the West Stockbridge Road in Richmond, and about 7,622 feet of State highway on the same road in West Stockbridge, the surface consisting of bituminous macadam. The proposal amounted to \$123,964.70. Work about three eighths completed. Expenditure during 1928, \$44,656.19.

*Revere.*

July 31, 1928, contract made with Crom & Linberg, of Evanston, Ill., for repairing a culvert on the State highway, known as the Traffic Road. The proposal amounted to \$1,500.00. Work completed Aug. 14, 1928. Expenditure during 1928, \$1,500.00.

*Holden.*

Aug. 14, 1928, contract made with the Guaranty Construction Company, of Shirley, for reconstructing about 6,705 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$51,011.00. Work completed Nov. 30, 1928. Expenditure during 1928, \$48,365.13.

*Abington-Whitman.*

Aug. 14, 1928, contract made with the Interstate Highway Construction Corporation, of Quincy, for reconstructing about 8,582 feet of State highway on Bedford, Washington and South Bedford Streets in Abington, and about 4,793 feet of State highway on Bedford Street in Whitman, the surface consisting of bituminous macadam. The proposal amounted to \$75,304.85. Work practically completed. Expenditure during 1928, \$59,062.55.

*North Adams.*

Aug. 7, 1928, contract made with P. J. Kennedy & Company, Inc., of Holyoke, for repairing a steel bridge on the State highway, known as the West State Road. The proposal amounted to \$13,492.50. Work completed Nov. 20, 1928. Expenditure during 1928, \$11,886.44.

*Mansfield-Norton.*

Aug. 21, 1928, contract made with Morrell & Munroe, of North Attleborough, for reconstructing about 2,420 feet of State highway on the Norton Road in Mansfield, and about 2,651 feet of State highway on the same road in Norton, the surface consisting of bituminous macadam. The proposal amounted to \$48,860.00. Work practically completed. Expenditure during 1928, \$41,010.39.

*Russell-Huntington.*

Aug. 21, 1928, contract made with the Interstate Highway Construction Corporation, of Quincy, for reconstructing about 14,026 feet of State highway on the Huntington Road in Russell, and about 5,380 feet of State highway on the same road in Huntington, the surface consisting of bituminous macadam. The proposal amounted to \$163,080.05. Work one tenth completed. Expenditure during 1928, \$14,247.89.

*Uxbridge.*

Aug. 21, 1928, contract made with the R. H. Newell Company, of Uxbridge, for reconstructing about 6,324 feet of State highway on Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$46,213.50. Work completed Nov. 20, 1928. Expenditure during 1928, \$41,101.70.

*West Boylston.*

Aug. 21, 1928, contract made with the R. H. Newell Company, of Uxbridge, for reconstructing about 4,800 feet of State highway on the Sterling Road, the surface consisting of bituminous macadam. The proposal amounted to \$25,391.95. Work completed Nov. 20, 1928. Expenditure during 1928, \$21,292.04.

*Ayer.*

Aug. 14, 1928, contract made with the Greenough Company, of Acton, for reconstructing about 9,785 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$52,483.90. Work completed Nov. 30, 1928. Expenditure during 1928, \$48,793.85.

*Barnstable.*

Aug. 21, 1928, contract made with William A. Jones, of Barnstable, for reconstructing about 900 feet of State highway on the Falmouth Road, the surface consisting of bituminous concrete. The proposal amounted to \$13,975.50. Work about one half completed. Expenditure during 1928, \$5,600.70.



*Athol-Phillipston-Templeton.*

Aug. 28, 1928, contract made with G. Rosse & Son, of Leominster, for reconstructing about 7,876 feet of State highway on the Templeton Road in Athol, about 15,442 feet of State highway on the Athol Road in Phillipston, and about 2,156 feet of State highway on the same road in Templeton, the surface consisting of bituminous macadam. The proposal amounted to \$178,973.30. Work just begun. Expenditure during 1928, \$10,100.59.

*Ashburnham.*

Sept. 4, 1928, contract made with the R. H. Newell Company, of Uxbridge, for reconstructing about 19,939 feet of State highway on the Fitchburg Road, the surface consisting of bituminous macadam. The proposal amounted to \$153,138.90. Work about one fifth completed. Expenditure during 1928, \$29,527.07.

*Wilmington.*

Sept. 4, 1928, contract made with G. Rotondi & Son, of Melrose, for reconstructing about 1,000 feet of State highway on Main Street and surfacing a bridge over the Boston & Maine Railroad, the surface of the bridge consisting of bituminous concrete and the surface of the balance of the road of bituminous macadam. The proposal amounted to \$10,309.40. Work completed Nov. 30, 1928. Expenditure during 1928, \$8,835.24.

*Fall River-Somerset.*

Sept. 4, 1928, contract made with W. V. Polleys Company, of East Providence, R. I., for repairing the fender pier to the Brightman Street Bridge. The proposal amounted to \$2,400. Work completed Oct. 16, 1928. Expenditure during 1928, \$2,400.00.

*Easthampton-Northampton.*

Sept. 4, 1928, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 1,035 feet of State highway on the Northampton Road in Easthampton, and about 7,600 feet of State highway on the same road in Northampton, the surface consisting of bituminous macadam. The proposal amounted to \$71,193.25. Work about one half completed. Expenditure during 1928, \$33,157.82.

*Clarksburg-Florida-North Adams.*

Sept. 25, 1928, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 17,206 feet of State highway on the Mohawk Trail in North Adams, about 647 feet of said trail in Clarksburg, and about 13,600 feet of said trail in Florida, the surface consisting of bituminous macadam. The proposal amounted to \$231,165.75. Work just begun. Expenditure during 1928, \$21,551.75.

*Easthampton.*

Oct. 9, 1928, contract made with Albert P. Rounds, of Stoneham, for constructing a steel bridge and approaches on about 800 feet of State highway known as the Mount Tom Road, the surface of the bridge consisting of bituminous concrete and the surface of the approaches of bituminous macadam. The proposal amounted to \$95,396.75. Work just begun. Expenditure during 1928, \$5,334.60.

*Lynn-Salem.*

Oct. 16, 1928, contract made with Nicolo Tanzella, of Beverly, for widening and resurfacing about 1,950 feet of State highway on Western Avenue in Lynn, and about 10,148 feet of State highway on Highland Avenue in Salem, the surface consisting of bituminous macadam. The proposal amounted to \$75,986.50. Work just begun. Expenditure during 1928, \$3,013.95.

*Groton-Pepperell.*

Oct. 16, 1928, contract made with Antonio Pallotto, of Dracut, for reconstructing about 17,234 feet State highway on South Street in Pepperell, and about 553 feet of State highway on the same road in Groton, the surface consisting of bituminous macadam. The proposal amounted to \$111,533.00. Work just begun. Expenditure during 1928, \$6,845.57.

*Winchendon.*

Nov. 20, 1928, contract made with the Lawton Construction Company, of Providence, R. I., for reconstructing about 16,903 feet of State highway on Spring Street, the surface consisting of bituminous macadam. The proposal amounted to \$124,865.60. Work just begun. Expenditure during 1928, \$522.92.

*Sandisfield-Tolland.*

Nov. 20, 1928, contract made with the New Haven Road Construction Company, Inc., of New Haven, Conn., for constructing about 3,659 feet of State highway on the Farmington River Road in Tolland, and about 18,283 feet of State highway on the same road in Sandisfield, the surface consisting of bituminous macadam. The proposal amounted to \$105,654.70. Work just begun. Expenditure during 1928, nothing.

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$132,557.77	Hampshire, \$233,566.11
Berkshire, \$478,908.80	Middlesex, \$16,951.37
Bristol, \$202,723.37	Norfolk, \$119,466.12
Essex, \$162,667.90	Plymouth, \$106,299.06
Franklin, \$296,395.72	Worcester, \$403,401.47
Hampden, \$200,784.16	Total, \$2,353,721.85

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$2,013.16; Bourne, \$53.12; Falmouth, \$119,646.91; Orleans, \$10,844.58.

*Berkshire County.* — Becket, \$186,584.87; Florida, \$40,106.11; Great Barrington, \$14,157.82; Otis, \$40,962.30; Pittsfield, \$9,490.65; Richmond, \$25,797.78; Sandisfield, \$15,958.85; West Stockbridge, \$14,493.22; Williamstown, \$131,357.20.

*Bristol County.* — Swansea, \$10,214.51; Westport, \$192,508.86.

*Essex County.* — Amesbury, \$146,838.23; Andover, \$2,719.32; Groveland, \$13,110.35.

*Franklin County.* — Bernardston, \$10,481.02; Buckland, \$54,940.92; Colrain, \$73,968.41; Deerfield, \$84,824.84; Gill, \$10,876.52; Northfield, \$61,304.01.

*Hampden County.* — Brimfield, \$141,392.63; Monson, \$17,807.66; Palmer, \$33,808.58; Tolland, \$10.20; West Springfield, \$7,765.09.

*Hampshire County.* — Easthampton, \$6,537.63; Huntington, \$89,289.24; Williamsburg, \$137,739.24.

*Middlesex County.* — Dracut, \$15,646.15; Framingham, \$26.09; Marlborough, \$313.25; Sudbury, \$965.88.

*Norfolk County.* — Dedham, \$119,466.12.

*Plymouth County.* — Marshfield, \$48,864.78; Plymouth, \$57,434.28.

*Worcester County.* — Charlton, \$238,049.27; Sturbridge, \$78,478.58; Templeton, \$86,873.62.

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS.

(Section 13, chapter 81, General Laws, and chapters 127 and 405, Acts of 1928.)

The expenditures during the year in various counties were: —

Barnstable, \$405,416.98	Hampshire, \$392,213.91
Berkshire, \$829,120.52	Middlesex, \$699,021.88
Bristol, \$514,148.28	Nantucket, \$587.23
Dukes, \$5,374.95	Norfolk, \$596,599.53
Essex, \$706,575.41	Plymouth, \$424,847.93
Franklin, \$412,680.20	Suffolk, \$22,599.36
Hampden, \$453,010.04	Worcester, \$1,052,445.13
	Total, \$6,514,641.35

Details of the foregoing expenditures follow: —



*Barnstable County.* — Barnstable, \$27,771.49; Bourne, \$47,062.49; Brewster, \$3,350.31; Chatham, \$3,510.94; Dennis, \$2,208.65; Eastham, \$7,242.01; Falmouth, \$203,244.44; Harwich, \$39,402.08; Mashpee, \$37,291.76; Orleans, \$14,662.17; Provincetown, \$1,606.97; Sandwich, \$4,120.68; Truro, \$4,759.17; Wellfleet, \$4,339.16; Yarmouth, \$4,844.66.

*Berkshire County.* — Adams, \$2,026.13; Becket, \$20,348.97; Cheshire, \$4,340.80; Clarksburg, \$13,795.86; Dalton, \$136,232.27; Egremont, \$4,340.25; Florida, \$151,991.72; Great Barrington, \$10,183.22; Hancock, \$5,715.45; Hinsdale, \$2,609.77; Lanesborough, \$11,311.37; Lee, \$14,157.51; Lenox, \$60,615.23; New Ashford, \$2,963.86; New Marlborough, \$20.88; North Adams, \$119,534.86; Otis, \$803.09; Peru, \$225.14; Pittsfield, \$150,479.39; Richmond, \$58,013.45; Sandisfield, \$6,871.39; Savoy, \$6,363.97; Sheffield, \$6,681.35; Stockbridge, \$5,991.83; Washington, \$4,162.87; Williamstown, \$21,986.56; Windsor, \$7,353.33.

*Bristol County.* — Acushnet, \$2,345.70; Attleboro, \$2,268.23; Berkley, \$533.31; Dartmouth, \$23,886.74; Dighton, \$79,973.03; Easton, \$4,665.16; Fairhaven, \$4,818.94; Fall River, \$2,196.22; Freetown, \$3,030.84; Mansfield, \$34,490.33; North Attleborough, \$2,303.81; Norton, \$27,871.58; Raynham, \$3,966.30; Rehoboth, \$7,040.57; Seekonk, \$8,417.12; Somerset, \$14,007.31; Swansea, \$30,051.48; Taunton, \$73,827.83; Westport, \$188,453.78.

*Dukes County.* — Chilmark, \$1,387.12; Edgartown, \$1,227.86; Gay Head, \$627.68; Oak Bluffs, \$256.94; Tisbury, \$634.20; West Tisbury, \$1,241.15.

*Essex County.* — Amesbury, \$3,626.50; Andover, \$4,673.71; Beverly, \$29,103.07; Boxford, \$10.04; Danvers, \$5,181.66; Essex, \$2,163.00; Georgetown, \$7.06; Gloucester, \$4,927.12; Groveland, \$70,631.34; Hamilton, \$2,035.97; Haverhill, \$6,229.92; Ipswich, \$6,949.68; Lawrence, \$1,819.00; Lynn, \$7,005.96; Lynnfield, \$69,251.88; Merrimac, \$904.48; Methuen, \$4,651.00; Middleton, \$2,357.50; Newbury, \$15,227.85; Newburyport, \$68,305.13; North Andover, \$33,584.91; Peabody, \$2,700.83; Rockport, \$2,315.68; Rowley, \$5,515.54; Salem, \$6,083.19; Salisbury, \$142,494.78; Saugus, \$194,447.54; Swampscott, \$1,854.41; Topsfield, \$6,194.16; Wenham, \$1,279.59; West Newbury, \$5,042.91.

*Franklin County.* — Ashfield, \$5,288.52; Bernardston, \$76,912.94; Buckland, \$27,918.39; Charlemont, \$19,439.37; Colrain, \$18,574.89; Conway, \$5,129.83; Deerfield, \$145,387.37; Erving, \$11,584.29; Gill, \$10,787.42; Greenfield, \$10,494.62; Montague, \$5,810.98; Northfield, \$55,529.01; Orange, \$4,179.04; Shelburne, \$7,824.81; Sunderland, \$3,286.00; Warwick, \$1,365.62; Whately, \$3,167.10.

*Hampden County.* — Agawam, \$4,555.61; Blandford, \$4,158.96; Brimfield, \$4,286.87; Chester, \$12,735.31; Chicopee, \$89,674.74; East Longmeadow, \$70,118.06; Granville, \$1,292.61; Holyoke, \$2,996.48; Monson, \$8,946.18; Palmer, \$9,564.06; Russell, \$197,941.85; Southwick, \$2,371.52; Tolland, \$1,436.22; Wales, \$7,025.16; West Springfield, \$7,312.37; Westfield, \$18,655.93; Wilbraham, \$9,938.11.

*Hampshire County.* — Amherst, \$118,523.84; Belchertown, \$4,752.58; Chesterfield, \$1,657.80; Cummington, \$9,335.16; Easthampton, \$5,464.29; Enfield, \$1,396.09; Goshen, \$3,681.26; Granby, \$27,558.81; Hadley, \$69,154.50; Hatfield, \$3,672.96; Huntington, \$13,336.80; Middlefield, \$535.31; Northampton, \$87,646.15; Plainfield, \$939.79; South Hadley, \$30,953.59; Southampton, \$2,131.48; Ware, \$7,215.89; Williamsburg, \$1,950.56; Worthington, \$2,307.05.

*Middlesex County.* — Acton, \$5,159.03; Arlington, \$2,168.81; Ashby, \$6,683.63; Ashland, \$2,155.97; Ayer, \$73,188.80; Bedford, \$843.19; Billerica, \$9,777.86; Boxborough, \$3,147.18; Burlington, \$2,196.17; Chelmsford, \$8,606.05; Concord, \$4,251.13; Dracut, \$4,366.78; Framingham, \$6,171.89; Groton, \$2,519.72; Holliston, \$1,291.47; Hudson, \$1,187.69; Lexington, \$3,864.55; Lincoln, \$1,909.86; Littleton, \$11,364.03; Lowell, \$2,207.55; Malden, \$10,354.37; Marlboro, \$232,242.82; Medford, \$7,946.46; Melrose, \$13,972.40; Natick, \$3,221.18; Newton, \$2,217.31; North Reading, \$2,766.02; Pepperell, \$11,487.33; Reading, \$12,743.44; Shirley, \$10,065.83; Somerville, \$10,454.98; Stoneham, \$1,150.12; Sudbury, \$2,177.02; Tewksbury, \$3,203.58; Townsend, \$124,225.27; Tyngsboro, \$2,758.36; Waltham, \$6,458.32; Watertown, \$24,406.62; Wayland, \$2,415.98; Westford, \$2,869.60; Weston, \$2,906.06; Wilmington, \$44,774.59; Winchester, \$930.95; Woburn, \$10,211.91.



*Nantucket County.* — Nantucket, \$587.23.

*Norfolk County.* — Avon, \$2,560.31; Bellingham, \$110,198.58; Braintree, \$11,036.41; Canton, \$4,699.80; Cohasset, \$1,843.13; Dedham, \$7,185.92; Dover, \$73,346.01; Foxborough, \$3,310.22; Franklin, \$126,975.24; Holbrook, \$5,286.19; Milton, \$7,751.56; Needham, \$32,328.13; Norfolk, \$966.78; Norwood, \$2,833.42; Plainville, \$2,201.30; Quincy, \$4,653.41; Randolph, \$6,208.09; Sharon, \$13.48; Stoughton, \$3,932.06; Walpole, \$3,895.44; Wellesley, \$754.11; Westwood, \$880.56; Weymouth, \$158,704.58; Wrentham, \$25,034.80.

*Plymouth County.* — Abington, \$49,230.60; Bridgewater, \$1,809.83; Brockton, \$1,633.43; Duxbury, \$26,699.48; East Bridgewater, \$63,491.55; Hanover, \$1,846.91; Hingham, \$4,201.41; Kingston, \$14,163.59; Lakeville, \$8,852.62; Marion, \$4,379.35; Marshfield, \$3,939.55; Mattapoisett, \$2,030.32; Middleborough, \$8,665.77; Norwell, \$1,178.56; Pembroke, \$1,622.81; Plymouth, \$56,460.19; Rochester, \$1,360.55; Rockland, \$86,087.43; Scituate, \$1,561.94; Wareham, \$8,902.97; West Bridgewater, \$633.27; Whitman, \$76,095.80.

*Suffolk County.* — Boston, \$2,311.35; Chelsea, \$2,453.27; Revere, \$17,834.74.

*Worcester County.* — Ashburnham, \$69,826.63; Athol, \$2,136.72; Auburn, \$2,960.75; Barre, \$61,244.81; Blackstone, \$2,031.03; Brookfield, \$1,729.57; Charlton, \$28,766.41; Clinton, \$8.41; Douglas, \$1,459.76; Dudley, \$144,346.21; East Brookfield, \$2,547.33; Fitchburg, \$15,453.41; Gardner, \$36,404.42; Grafton, \$14,720.80; Hardwick, \$238.88; Harvard, \$5,501.60; Holden, \$91,213.26; Hopedale, \$111.93; Lancaster, \$833.65; Leicester, \$13,692.29; Leominster, \$6,334.77; Lunenburg, \$20,775.65; Mendon, \$1,270.52; Milford, \$1,462.39; Millbury, \$3,639.08; Millville, \$5,973.84; New Braintree, \$90.18; North Brookfield, \$1,551.41; Northborough, \$7,505.27; Northbridge, \$6,426.39; Oakham, \$1,151.58; Oxford, \$21,670.96; Paxton, \$2,611.42; Petersham, \$4,902.97; Phillipston, \$8,411.33; Princeton, \$2,466.47; Rutland, \$7,971.82; Shrewsbury, \$6,383.01; Southborough, \$3,283.86; Southbridge, \$1,026.05; Spencer, \$106,737.33; Sterling, \$9,504.18; Sturbridge, \$3,612.69; Sutton, \$3,081.61; Templeton, \$10,680.49; Upton, \$14,323.55; Uxbridge, \$57,411.59; Warren, \$6,040.14; Webster, \$946.85; West Boylston, \$31,683.29; West Brookfield, \$30,722.27; Westborough, \$3,065.95; Westminster, \$117,064.83; Winchendon, \$23,556.08; Worcester, \$23,877.44.

#### FLOOD DAMAGE TO HIGHWAYS.

Early in November, 1927, a series of rainstorms of great intensity overtaxed the capacity of many streams and reservoirs throughout the State, causing inundation of many miles of roads and serious damage to some State, and other highways. The minor repairs to State highways, replacing material washed away, were made as soon as possible after water receded.

The most unusual damage was caused by the breaking of the dam of Wheeler Reservoir in Becket on Nov. 4, 1927. The water from this reservoir flooded a large area in the village of Becket, including a section of State highway about 1½ miles long and two or three sections of town way. The State highway was practically destroyed for nearly its entire length, and about a mile of town way. The Department immediately started work on the construction of temporary ways in the locality so that marooned residents would have access to highways which had not been destroyed. The reconstruction of the State highway and of town ways in the town was done under contracts let during the year 1928.

The bridge over the west branch of the Westfield River at Bancroft Village, lying in Becket and Middlefield, was washed away. This was rebuilt by the towns in co-operation with the State.

In the Connecticut River Valley many stretches of State highways and town roads were inundated but no serious damage was sustained.

East of the Connecticut River there were no State highways destroyed except in the towns of Sutton and Upton and the repairs required were not extensive.

#### REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS.

(Section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.)

The authority of the Department relative to the removal of snow and ice from



State highways has been provided by section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927, which is as follows: —

“Chapter eighty-one of the General Laws, as amended in section nineteen by section one of chapter four hundred and eighty-two of the acts of nineteen hundred and twenty-three, is hereby further amended by striking out said section nineteen and inserting in place thereof the following: — *Section 19.* A town shall have police jurisdiction over all state highways within its limits. It shall forthwith give written notice to the division or its employees of any defect or want of repair in such highways; but it may make necessary temporary repairs of a state highway without the approval of the division.

“The division shall at the expense of the commonwealth keep such state highways or parts thereof as it may select sufficiently clear of snow and ice to be reasonably safe for travel; and the town in which any such state highway or part thereof lies shall forthwith give written notice to the division or its employees of any failure to keep such highway or part thereof clear of ice and snow as aforesaid. The division shall annually in January certify to the state treasurer the amount of expenditures incurred in each town during the preceding year for keeping such state highways or parts thereof clear of ice and snow as aforesaid. One half the amount of such expenditures, not exceeding fifty dollars per mile in towns with a valuation of less than two million dollars, not exceeding seventy-five dollars per mile in towns with a valuation of two million dollars and less than five million dollars and not exceeding one hundred dollars per mile in cities and towns with a valuation of five million dollars or over, shall be made a part of the state tax for such cities and towns, respectively. If a city or town elects to keep any such state highways or parts thereof clear of ice and snow as aforesaid upon terms and prices agreed upon by it and the division and under the direction of the division, the division shall repay to it, from the annual appropriation for state highways, the amount expended therefor in excess of the amount which such city or town would have been required to repay in case such expenditures had been made by the division. The division may, upon petition, exempt any town from the whole or any part of any payment required hereunder, if in its judgment it would prove an undue burden.”

The co-operation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended by section 2, chapter 482, Acts of 1923.

In accordance with the provisions of these laws, the Department selected 1,500 miles of highways on the principal routes of travel, 1,300 miles of which are State highways and 150 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above mentioned laws amounted to a total of \$157,261.69.

#### HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS.

The following contract was entered into during the year for the construction of a town way, in accordance with the provisions of chapter 221, Acts of 1915, as amended by chapter 572, Acts of 1920: —

*Warwick.* — Aug. 7, 1928, contract made with the Fitchburg Concrete Construction Co., of Fitchburg, for constructing about 10,140 feet of highway on the Winchester Road, the surface consisting of gravel. The proposal amounted to \$37,922.20. Work completed Nov. 20, 1928. Expenditure during 1928, \$31,566.19.

The total expenditures during the year for the construction of these highways in the Five Western Counties amounted to \$48,176.16, details of which follow: —

*Route No. 6.* — Peru-Worthington, \$15,471.94.

*Route No. 9.* — Granville-Southwick, \$39.50.

*Route No. 11.* — Warwick, \$32,664.72.

### SOUTHERN ROUTE TO ACCOMMODATE TRAFFIC BETWEEN BOSTON AND THE TERRITORY TO THE SOUTH AND EAST THEREOF.

In accordance with the provisions of chapters 330 and 344, Acts of 1925, as amended by chapter 369, Acts of 1926, the Department was authorized to lay out and construct convenient and adequate ways for motor vehicles and other traffic in the cities of Boston and Quincy.

The portion lying within the city of Boston begins at a point on Morton Street, easterly of the Midland Division of the New York, New Haven and Hartford Railroad, and extends southeasterly along Morton Street, Codman Street and other land to Adams Street, and continues along Adams and Marsh Streets to Neponset Avenue at a point opposite the Old Colony Boulevard. The portion lying within the city of Quincy begins at Hancock Street, northerly of Furnace Brook Parkway and continues southeasterly to a point near the junction of Valley and Sea Streets, thence to the junction of Field and Bracket Streets; thence to the junction of Washington and North Streets, and from that point over North Street to Quincy Avenue.

This construction, work on which began in November, 1926, affords a traffic way of bituminous macadam capable of accommodating four lanes of traffic and has a total length of 5.1 miles, of which 2.48 miles lie in the city of Boston and 2.62 miles lie in the city of Quincy. A special feature of this project is the construction of a heavy plate girder skew bridge with a reinforced concrete slab floor, having a span of 83' 8", which carries the tracks of the Dorchester Tunnel extension over Codman Street.

This route, known as the Southern Artery, is now included as part of the State numbered Route 3. The advantage of this construction is the deflection of traffic from Mattapan, the avoidance of the railroad crossing at East Milton, and of Quincy Square, which were congested points on the former portion of Route 3, especially for traffic destined to and from Plymouth and Cape Cod.

The act provides that upon the completion of this route, all parts of these ways shall become public streets or ways of the respective cities within which they lie, and be kept in good repair by them. Consequently, on Dec. 21, 1927, the mayors of the cities of Boston and Quincy were notified that this work had been completed.

### TRAFFIC ARTERY IN THE CITY OF CAMBRIDGE.

In accordance with the provisions of chapter 366, Acts of 1928, the Department is authorized to lay out and construct a convenient and adequate way for motor vehicles and other traffic in the city of Cambridge, beginning at the present terminus of Alewife Brook Parkway at Massachusetts Avenue, thence over land of the Commonwealth to Concord Avenue, thence over public or private ways including Concord Avenue, Fresh Pond Avenue, Wyeth Terrace and Fresh Pond Lane to Huron Avenue, the northern terminus of Fresh Pond Parkway, including crossings at grade of certain tracks and by a bridge or viaduct of other tracks of the Boston and Maine Railroad. During the year surveys and plans have been made in preparation for letting contracts for this work early in 1929.

### PUBLIC HIGHWAY ALONG THE SHORE OF DORCHESTER BAY IN THE SQUANTUM DISTRICT OF THE CITY OF QUINCY.

In accordance with the provisions of chapter 259, Acts of 1928, the Department is authorized and directed to lay out and construct a public highway fifty feet in width with riprap protection along the shore of Dorchester Bay in the city of Quincy, from a point at the junction of East Squantum Street and Dorchester Street to a point known as "the park" or Shoreham Street. During the year surveys and plans have been made in preparation for letting a contract for this work early in 1929.

### FEDERAL AID IN CONSTRUCTING HIGHWAYS.

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the States in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.



The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917 . . . . .	\$73,850 94
For fiscal year ending June 30, 1918 . . . . .	147,701 90
For fiscal year ending June 30, 1919 . . . . .	958,145 15
For fiscal year ending June 30, 1920 . . . . .	1,400,078 27
For fiscal year ending June 30, 1921 . . . . .	1,472,788 83
For fiscal year ending June 30, 1922 . . . . .	1,096,176 04
For fiscal year ending June 30, 1923 . . . . .	730,784 03
For fiscal year ending June 30, 1924 . . . . .	950,448 62
For fiscal year ending June 30, 1925 . . . . .	1,089,806 22
For fiscal year ending June 30, 1926 . . . . .	1,099,891 00
For fiscal year ending June 30, 1927 . . . . .	1,089,055 00
For fiscal year ending June 30, 1928 . . . . .	1,089,100 00
For fiscal year ending June 30, 1929 . . . . .	1,088,808 00
<b>Total . . . . .</b>	<b>\$12,286,634 00</b>

The total amount received by Massachusetts from 1916 to Nov. 30, 1928, is \$8,718,278.16.

Projects to the number of 30 have been prepared in addition to those shown in the report of the Department of Public Works, Division of Highways, for 1927. The total mileage included in the various Federal aid road projects in this State, from the commencement of work of this character to Nov. 30, 1928, inclusive, is 621.731. The mileage in various counties is:—

Barnstable, 60.566 miles	Hampden, 42.027 miles
Berkshire, 81.738 miles	Hampshire, 38.667 miles
Bristol, 62.044 miles	Middlesex, 58.365 miles
Dukes, 3.117 miles	Norfolk, 37.423 miles
Essex, 61.734 miles	Plymouth, 54.080 miles
Franklin, 21.307 miles	Worcester, 100.663 miles

#### STATEMENT OF FEDERAL AID ROAD PROJECTS\* TO NOV. 30, 1928.

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
1	Acushnet-Fairhaven . . . . .	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover . . . . .	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus . . . . .	1.162	11,620 00	11,620 00	Work completed.
4	Danvers . . . . .	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton . . . . .	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich . . . . .	1.818	10,678 02	10,678 02	Work completed.
7	Cummington . . . . .	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham . . . . .	7.016	90,074 51	90,074 51	Work completed.
9	Saugus . . . . .	3.122	65,472 27	65,472 27	Work completed.
10	Braintree . . . . .	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton . . . . .	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich . . . . .	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton . . . . .	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable . . . . .	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham . . . . .	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody . . . . .	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg . . . . .	2.797	55,940 00	55,940 00	Work completed.
19	Taunton . . . . .	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury . . . . .	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock . . . . .	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston . . . . .	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington . . . . .	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk . . . . .	2.756	19,527 75	19,527 75	Work completed.
25	Billerica . . . . .	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1 . . . . .	5.134	102,680 00	102,680 00	Work completed.
	Section 2 . . . . .	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham . . . . .	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A . . . . .	0.990	19,780 00	19,780 00	Work completed.
	Section B . . . . .	2.690	53,800 00	53,800 00	Work completed.
29	Ware . . . . .	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield . . . . .	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody . . . . .	1.107	22,140 00	22,140 00	Work completed.
32	Huntington . . . . .	3.078	97,163 48	97,163 48	Work completed.

\* All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1928. — *Continued.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
33	Acton-Littleton:				
	Section A . . . . .	2.182	\$43,640 00	\$43,640 00	Work completed.
	Section B . . . . .	1.624	25,847 25	25,847 25	Work completed.
34	Dudley . . . . .	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen . . . . .	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A . . . . .	10.690	91,347 85	91,347 85	Work completed.
	Section B . . . . .	6.548	75,935 60	75,935 60	Work completed.
	Section C . . . . .	8.043	86,130 51	86,130 51	Work completed.
37	Egremont . . . . .	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers . . . . .	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanes- borough:				
	Section A . . . . .	0.020	9,123 64	9,123 64	Work completed.
	Section B . . . . .	3.323	65,980 00	65,980 00	Work completed.
40	East Brookfield . . . . .	1.011	20,220 00	20,220 00	Work completed.
41	Ashby . . . . .	1.250	22,141 03	22,141 03	Work completed.
42	Washington . . . . .	2.291	45,820 00	45,820 00	Work completed.
43	Leicester . . . . .	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cumington-Windsor:				
	Section A . . . . .	1.494	29,880 00	29,880 00	Work completed.
	Section B . . . . .	1.479	50,183 37	50,183 37	Work completed.
	Section C . . . . .	3.780	82,915 42	82,915 42	Work completed.
45	Palmer:				
	Sections A and C . . . . .	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A . . . . .	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	39,180 00	39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brook- field:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	53,820 00	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	60,180 00	60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	89,780 00	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.189	24,084 11	13,095 66	Work underway.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington . . . . .	0.028	10,098 38		Work underway.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke . . . . .	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton (Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	5,429 50	5,429 50	Work completed.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield . . . . .	1.227	25,324 95	25,324 95	Work completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham . . . . .	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	122,931 25	Work completed.



## STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1928—Continued.

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
95	Westfield	0.148	\$12,677 08	\$12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00		Work completed.
121D	East Bridgewater-Whitman	2.000	30,000 00		Work completed.
121E	Abington	1.088	16,320 00		Work underway.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	132,939 21		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00		Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	84,084 87		Work underway.
128A	Hinsdale	0.066	8,598 63	5,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00		Work completed.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	54,052 37		Work completed.
135D	Russell-Huntington	3.670	55,050 00		Work underway.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	69,410 72		Work underway.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00		Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,431 69		Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00		Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1928. — *Concluded.*

No.	TOWN OR CITY.	Miles.	Amount of Federal Aid involved.	Amount received.	Remarks.
149A	Middleborough . . . . .	5.586	\$83,790 00	\$83,790 00	Work completed.
150A	Littleton-Westford . . . . .	1.985	29,775 00	29,775 00	Work completed.
150B	Westford . . . . .	2.660	39,900 00	39,900 00	Work completed.
151A					
& B	Swansea-Somerset . . . . .	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth . . . . .	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth . . . . .	2.858	42,870 00	42,870 00	Work completed.
152C	Westport . . . . .	4.634	69,510 00		Work completed.
153A	Southampton-Easthampton . . . . .	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge . . . . .	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield . . . . .	0.549	8,235 00	8,235 00	Work completed.
156A	Orange . . . . .	1.058	15,870 00	15,870 00	Work completed.
157A	Sandisfield-Tolland . . . . .	0.644	40,464 37	34,803 50	Work completed.
157B	Sandisfield . . . . .	0.473	34,116 12		Work completed.
157C	Sandisfield-Tolland . . . . .	3.038	45,570 00		Work underway.
158A	Dalton . . . . .	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea . . . . .	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk . . . . .	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea . . . . .	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge . . . . .	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater . . . . .	3.823	57,345 00	57,345 00	Work completed.
162A	Holliston . . . . .	3.315	49,725 00	49,725 00	Work completed.
163A	Amherst . . . . .	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst . . . . .	2.100	31,500 00		Work completed.
164A	Westminster-Winchendon . . . . .	0.750	48,475 74	26,555 45	Work underway.
164B	Westminster-Ashburnham . . . . .	3.607	54,105 00		Work underway.
164C	Ashburnham . . . . .	3.776	56,640 00		Work underway.
164D	Winchendon . . . . .	2.826	42,390 00		Work underway.
165A	Winchendon . . . . .	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis . . . . .	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield . . . . .	3.043	45,645 00		Work completed.
169A	Merrimac-Amesbury . . . . .	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford . . . . .	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling . . . . .	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire . . . . .	4.377	74,965 81	74,965 81	Work completed.
174A	Marshfield . . . . .	4.533	67,995 00		Work completed.
175A	Sandwich . . . . .	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans . . . . .	1.904	23,601 55	23,601 55	Work completed.
176A	Plymouth . . . . .	5.032	75,480 00		Work completed.
177A	Chatham . . . . .	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans . . . . .	1.802	25,838 02	25,838 02	Work completed.
178A	Chelmsford . . . . .	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth . . . . .	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham . . . . .	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin . . . . .	3.889	58,335 00		Work completed.
181A	Florida-North Adams . . . . .	2.818	42,270 00		Work completed.
181B	Florida . . . . .	2.736	41,040 00		Work underway.
181C	North Adams-Clarksburg . . . . .	3.362	50,430 00		Work underway.
182A	Lunenburg . . . . .	1.312	19,680 00		Work completed.
183A	Amesbury-Salisbury . . . . .	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury . . . . .	1.329	45,345 32		Work underway.
184A	Charlton . . . . .	2.848	42,720 00		Work completed.
184B	Charlton-Sturbridge . . . . .	5.623	84,345 00		Work underway.
185A	Buckland . . . . .	1.245	18,675 00		Work completed.
186	Salisbury . . . . .	2.405	36,075 00		Work completed.
187A	Bellingham . . . . .	1.225	18,375 00		Work completed.
188A	Townsend . . . . .	3.813	57,195 00		Work completed.
188B	Pepperell-Groton . . . . .	3.368	50,520 00		Work underway.
190A	Becket . . . . .	2.254	33,810 00		Work underway.
191A	Falmouth . . . . .	5.896	88,440 00		Work underway.
191B	Falmouth . . . . .	1.752	26,280 00		Agreem't sign'd.
192A	Groveland . . . . .	1.643	24,645 00		Work completed.
192B	Newburyport . . . . .	1.745	26,175 00		Work completed.
193A	Hadley . . . . .	1.985	29,775 00		Work completed.
194A	Athol-Phillipston-Templeton . . . . .	4.738	71,070 00		Work underway.
195A	Mansfield-Norton . . . . .	0.960	18,706 99		Work underway.
Total . . . . .		621.731	\$10,849,623 44	\$8,718,278 16	

## BRIDGES.

During the year, the Department has prepared designs and plans and done other work relating to bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows: —

## BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR.

*Cities and Towns, Locality and Character of Structure.*

Acton — School Street over Fort Pond Brook; one 23-foot span, reinforced concrete beam.



- Amesbury — Macy Street Extension over Powow River; one 40-foot span and two 34-foot spans, reinforced concrete beam.
- Becket — Main Street over West Branch of Westfield River; one 48-foot span, reinforced concrete beam.
- Becket — Maple Street over branch of West Branch of Westfield River; one 44-foot span, reinforced concrete beam.
- Becket-Middlefield — Bancroft Bridge over West Branch of Westfield River; one 44.7-foot span and two 39-foot spans, reinforced concrete beam.
- Bellingham — Franklin Street over Peters River; one 12.54-foot span, reinforced concrete slab.
- Brimfield — Palmer Road over Nutting Brook; 6 feet by 8 feet, reinforced concrete box culvert.
- Charlton — Bay Road over Globe Brook; one 11-foot span, reinforced concrete slab.
- Chesterfield — Worthington Road over West Branch of Westfield River; one 54.3-foot and two 20.2-foot spans, reinforced concrete beam.
- Conway — Shelburne Falls Road over Bear River; two 40-foot spans, reinforced concrete beam.
- Dedham — Washington Street over New York, New Haven and Hartford Railroad; one 69-foot span, reinforced concrete girder.
- Duxbury — Kingston Road over Island Creek; one 10-foot span, reinforced concrete slab.
- Easthampton — Northampton Road over Ox Bow; two 65-foot and two 44-foot spans, steel deck plate girder with concrete floor.
- Falmouth — State Highway over Childs River; one 26.6-foot span, reinforced concrete beam.
- Falmouth — State Highway over Quostinet River; one 8-foot span, reinforced concrete slab.
- Great Barrington — Egremont Road over Green River; two 36-foot spans, reinforced concrete beam.
- Heath — Dell Bridge over Mill Brook; one 20-foot span, wooden beam.
- Kingston — Landing Road over Stony Brook; one 19.3-foot span, reinforced concrete beam.
- Mansfield — South Main Street over Rumford River; one 28.3-foot span, reinforced concrete beam.
- Maynard — Waltham Street over Assabet River; three 25.8-foot spans, reinforced concrete beam.
- Peru-Worthington — Road over Trout Brook; one 39-foot span, pony truss with wood floor.
- Princeton-Sterling — Redemption Rock Trail over Keyes Brook; one 20.6-foot span, reinforced concrete beam.
- Princeton-Sterling — Redemption Rock Trail over Justice Brook; one 17.8-foot span, reinforced concrete slab.
- Russell — Blandford Stage Road over Freeland Brook; one 16-foot span, reinforced concrete slab.
- Stockbridge — Tuckerman Bridge over Housatonic River; one 100.3-foot span, steel pony truss with concrete floor and sidewalk.
- Sturbridge — Charlton Road over Crystal Pond; one 8-foot span, reinforced concrete slab.
- Sutton — Fisherville Road over Cold Spring Brook; one 15-foot span, reinforced concrete slab.
- Upton — Grafton Road over Warren Brook; one 25-foot span, reinforced concrete beam.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES  
COMPLETED IN 1928.

*Cities and Towns, Locality and Character of Work.*

- Becket — State Highway over branch of West Branch of Westfield River; extension of reinforced concrete arch.
- Becket — State Highway over Yokum Pond Outlet; extension of reinforced concrete beam.

- Becket — State Highway over branch of West Branch of Westfield River; repairs to beam, wing wall and fences of a reinforced concrete beam.
- Becket — State Highway over branch of West Branch of Westfield River; repairs to wing walls, fences and sidewalk of a reinforced concrete beam.
- Brimfield — Palmer Road over Elbow Brook; extension of a reinforced concrete beam.
- Brimfield — Palmer Road over brook; extension of a reinforced concrete arch.
- Chester — Maple Street over West Branch of Westfield River; repairs to trusses, fences and a new floor system on a through steel truss.
- Colrain — Shelburne Falls Road over canal; extension to a reinforced concrete beam.
- Dalton — Centre bridge over Housatonic River; cleaning and painting of a through plate girder.
- Dedham — Washington Street over Mother Brook; extension of a reinforced concrete beam.
- Franklin — Bellingham Road over Mine Brook; retaining wall and concrete slab.
- Lee — Center Street over Housatonic River; cleaning and painting a through steel truss.
- Millis — Middlesex Street over Bogastow River; extension of a reinforced concrete arch.
- North Adams — Greylock Bridge on Williamstown Road over Hoosic River; concrete abutment, repairs to floor system, cleaning and painting a through steel truss.
- Revere — Traffic Road over county ditch; repairs to reinforced concrete culvert.
- Richmond — Richmond Furnace Road over Griffin Brook; extension of reinforced concrete beam with reinforced concrete slab.
- Russell — Ladder Road over brook; extension to reinforced concrete slab.
- Sandisfield-Tolland — Winsted Road over Farmington River; cleaning and painting through steel truss.
- Saugus — Newburyport Turnpike over Saugus River; extension of reinforced concrete beam.
- Sheffield — Ashley Falls Road over Housatonic River; cleaning and painting steel pony truss.
- Warwick — Road to Winchester, N. H., over Kidder Brook; extension to reinforced concrete slab.
- Williamstown — Pownal Road over Hoosic River; repairs to abutment and approaches.

#### CONTEMPLATED BRIDGES AND STRUCTURES.

##### *Plans, Studies or Estimates made.*

##### *Cities and Towns, Locality and Character of Structure.*

- Ashfield — Ashfield-South Ashfield Road over South River; one 25-foot span, reinforced concrete beam.
- Charlemont — Mohawk Trail over Trout Brook; extension of reinforced concrete slab, 10-foot span.
- Chester — Jacobs Ladder Road over Sanderson Brook; extension of reinforced concrete beam, 30-foot span.
- Chester — Jacobs Ladder Road over brook; one 15-foot span reinforced concrete beam.
- Chester — Jacobs Ladder Road over Austin Brook; reinforced concrete beam.
- Dudley — Webster-Quinebaug Road over Tufts Brook; extension of reinforced concrete slab, 10-foot span.
- Dudley — Southbridge-Quinebaug Road over Quinebaug River and canal; one 175-foot span steel truss.
- Grafton — Grafton-North Grafton Road over brook; one 10-foot span, reinforced concrete slab.
- Hinsdale — Over Boston & Albany Railroad; examination and borings.
- Marion-Wareham — New Bedford-Cape Road over Weweantic River; two 49.75-foot spans, reinforced concrete beam.
- Newbury — Over Parker River; five 60-foot spans, reinforced concrete beam.



- Northfield — Farms Road over Four Mile Brook; one 18-foot span, reinforced concrete beam.
- Plymouth — State Highway over Beaver Dam Brook; extension of 12-foot span stone arch with reinforced concrete.
- Sturbridge — Over Quinebaug River; examination, estimate and borings.
- Sudbury — State Highway over Parmenter Mill Pond; examination and study.
- Wareham — State Highway over Weweantic River; two 43.25-foot spans and one 47.5-foot span, reinforced concrete beam.
- Windsor — State Highway over Baldwin Brook; extension of reinforced concrete beam, 24.2-foot span.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns.*

*Towns, Locality and Character of Work.*

- Agawam-West Springfield — Bridge Street over Westfield River; examination and report on condition and strength of 2-span steel truss.
- Ashland — Homer Avenue over Cold Spring Brook; examination and preliminary estimate for reinforced concrete beam.
- Becket — Brooker Hill Road over Brooker Hill Brook; examination and advice for rebuilding.
- Berlin — Marlborough-Berlin Road over Assabet River; examination and report.
- Blandford — Russell Stage Road over Freeland Brook; examination and report.
- Charlton — Turner Road over Little River; examination, preliminary estimate and report for one 17-foot span stone arch.
- Cheshire — Adams-Savoy Road over Pumpkin Brook; examination and preliminary estimate on repairs and extension of stone arch.
- Dalton — Kittridgeville Bridge over East Branch Housatonic River; examination of iron truss.
- East Brookfield — Charlton Road over Seven Mile River; examination and report on steel truss and estimate for new bridge.
- Framingham — Worcester Road over Metropolitan District Reservoir No. 1; examination and report on steel plate girder.
- Framingham — Worcester Road over Sudbury River; examination and report on steel plate girder.
- Framingham — Concord Street over Sudbury River; examination of steel plate girder.
- Holden — Hall's Bridge over Quinapoxet River; examination and report on wood truss.
- Hudson — Cox Street over Assabet River; examination and plans for 2-span reinforced concrete beam.
- Hudson — Cox Street over Cox Brook; examination, design and plans for reinforced concrete slab.
- Hudson — Brigham Street over Assabet River; examination, estimate and report.
- Ipswich — Choate Bridge over Ipswich River; examination, report on condition and estimate for repairs of 2-span stone arch.
- Lanesborough — Report and sketch for 22-foot span steel I beam with concrete floor.
- Lee — West Park Street over Housatonic River; examination and report on truss, preliminary estimate for new steel truss.
- Lee — Road over Washington Brook; examination, report and preliminary estimate for steel beam.
- Mansfield — Plain Street over Bungay Reservoir; examination, report and estimate for reinforced concrete slab.
- Mansfield — East Street over Canoe River; examination, report and preliminary estimate for reinforced concrete slab.
- Marshfield-Scituate — Humarock Bridge over South River; examination of wood bridge.
- Maynard-Stow — Russell Bridge over Assabet River; examination, report and preliminary estimate.
- Medfield-Millis — Dwight Bridge over Charles River; examination of 2-span wood bridge.
- Millis — Baltimore Street over Charles River; examination of 2-span wood bridge.

- Monson — State Hospital Road over Quaboag River; examination, report and preliminary estimate.
- Newton-Weston — Charles River Road over Charles River; examination, estimate, plans and specifications for repairs, cleaning, and painting of 2-span steel truss.
- Northborough-Westborough — Cobbs Bridge over Assabet River; examination, report and preliminary estimate on repairs to steel pony truss and preliminary estimate of new reinforced concrete beam.
- Norton — Pine Street over Rumford River; examination, estimate and sketch.
- Reading — Mineral Street over Boston & Maine Railroad; examination, report and estimate of repairs to wood trestle, and estimate for new 3-span concrete beam.
- Rochester — Road over Mattapoissett River; examination, report and preliminary estimate for reinforced concrete beam.
- Sheffield — Lower Covered Bridge over Housatonic River; examination, report and estimate of repairs to floor system.
- Southwick — Loomis Street over Munn Brook; examination, report, plans and specifications for repairs.
- Tewksbury — Hall's Bridge over Shawsheen River; examination and report on wood truss.
- Tewksbury — Bridge Street over Shawsheen River; examination, report and preliminary estimate for one span, reinforced concrete beam.
- Tyngsborough — Over Merrimack River and Boston and Maine Railroad; examination and report.
- Westford — River Street over Stony Brook; examination, report and preliminary estimate for alteration.
- Westford — Farm Road over Stony Brook; examination, report and preliminary estimate for reinforced concrete slab and beam.
- Williamsburg — Berkshire Trail over Mill River; examination, report and preliminary estimate for alteration of steel truss.
- Windsor — Allens Bridge over Westfield River; examination, report and preliminary estimates for three types.
- Windsor — Axe Factory Bridge over Westfield River; examination, report and preliminary estimates for three types.
- Windsor — Polly Bridge over Baldwin Brook; examination, report and preliminary estimate for I beam.

*Examinations, Reports, Estimates, etc., by direction of the Department.*

*Cities and Towns, Locality and Subject.*

- Andover — Main Street, over Boston and Maine Railroad; examination, report and preliminary estimate for steel bridge.
- Andover — North Main Street over Shawsheen River; examination, report and estimate for widening stone arch.
- Andover — Haverhill Street, under Boston and Maine Railroad; examination and study.
- Ashburnham — Winchendon Road over Boston and Maine Railroad; examination, study and advice for elimination of grade crossing.
- Attleboro — Newport Avenue over New York, New Haven and Hartford Railroad; examination of wooden bridge.
- Barre — Grist Mill Bridge over Prince River; examination of plate girder.
- Canton — Neponset Street; conference with New York, New Haven and Hartford Railroad Company regarding widening roadway under stone viaduct.
- Chester — Jacob's Ladder Road; examination of underpass and steel truss, Boston and Albany Railroad.
- Colrain — Shelburne Falls Road over canal; examination and report on wood stringer.
- Concord — By-pass over Boston and Maine Railroad and Sudbury River; examination, study and preliminary estimates.
- Florida-Savoy — Mohawk Trail over Cold River; examination of reinforced concrete arch.
- Grafton — North Grafton Road over Quinsigamond River; examination of concrete beam.



- Lee — South Lee-East Lee Road, underpass Berkshire Street Railway; examination, study, report and estimate for abolition of concrete arch.
- Littleton — Groton Road, over Boston and Maine Railroad; examination and study for steel stringers encased in concrete.
- Palmer — Springfield Road under Boston and Albany Railroad; study, report and preliminary estimate for reconstruction of two underpasses.
- Pittsfield — Coltsville Bridge over Boston and Albany Railroad; examination of plate girder.
- Rehoboth — State Highway over brook; examination of stone slab.
- Rehoboth — State Highway over Palmer River; examination of stone arch.
- Russell — State Highway over Black Brook; examination, report and estimate for repairs.
- Sandisfield — New Boston Road over Farmington River; examination and study for steel truss.
- Taunton — Winthrop Street over Segreganset River; examination and report on plate girder.
- Townsend — Road over Squannacook River; examination of steel truss.
- Wayland — Hudson Road over Sudbury River; examination and preliminary estimate for extension of two stone arches.
- Westfield — Road over Little River; examination of steel truss.
- Williamstown — Pownal Road under Boston and Maine Railroad; examination and report on underpass.
- Wilmington — Main Street over Boston and Maine Railroad; examination and study for plate girder.
- Winchendon — Ashburnham Road over Boston and Maine Railroad; study for elimination of grade crossing.
- Woburn — Wilmington Road, over Boston and Maine Railroad; examination and study for steel stringers encased in concrete.

*Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313, Acts of 1923.*

*Cities and Towns, Location, Character of Work and Date of Approval.*

- Adams — Cook Street over Hoosic River; 59.4-foot span through plate girder encased in concrete; approved June 26, 1928.
- Adams — Lime Street over canal; 20-foot span I beam; approved June 26, 1928.
- Beverly-Salem — Kernwood Bridge over Danvers River; wood pile approach and solid fill; approved Jan. 10, 1928.
- Conway — Shelburne Falls Road over Bear River; two 26.5-foot spans, reinforced concrete beam; approved Aug. 16, 1928.
- Douglas — Town Farm Road over Fairfield Brook; 16-foot span, granite arch; approved June 20, 1928.
- Gardner — Travers Street, Brook between Stone and Bent Ponds; I beam; approved June 8, 1928.
- North Adams — Marshall Street over Hoosic River; two 60-foot spans, through plate girder; approved Apr. 4, 1928.
- Pittsfield — Dawes Avenue over East Branch Housatonic River; 69.1-foot span, steel plate girder; approved Apr. 24, 1928.
- Raynham-Taunton — Old Colony Avenue over Taunton River; four 11.5-foot spans, wood pile; approved Dec. 6, 1927.
- Saugus — Woodbury Avenue over Saugus River; 22-foot span, reinforced concrete beam; approved Sept. 5, 1928.
- Worcester — Millbury Street over Blackstone River; 60-foot span, deck plate girder; approved Feb. 7, 1928.

*Legislative Resolves of 1927 and 1928. Examinations, Studies, Estimates and Reports on Bridges and Structures.*

*Cities and Towns, Locality and Character of Work.*

- Braintree-Weymouth — Plain Street over Monatiquot Pond; examination, report and preliminary estimate for concrete beam.
- Cambridge — Alewife Brook Parkway over Boston and Maine Railroad; examination, report and estimate for 4-span, steel truss and plate girder, 400 feet long.

- Cambridge — Alewife Brook Parkway over Boston and Maine Railroad; examination, report and estimate for 3-span plate girder and I beams, 160 feet long.
- Medford — Harvard Street under Boston and Maine Railroad; examination, estimate and report on steel girder.
- Medford — Harvard Street over Mystic River; examination, report and estimate for concrete beam and steel draw.
- Medford — Traffic Road over Mystic River; examination, report and estimate for concrete beam and steel draw.
- Revere — Squire Road Extension over Boston and Maine Railroad; examination, study, report and estimate for steel girder.
- Revere — Squire Road Extension over Boston, Revere Beach and Lynn Railroad; examination, study, report and estimate for steel truss.
- Revere — Revere Street over Boston and Maine Railroad; examination, study, report and estimate for steel girder.
- Revere — Beach Street over Boston and Maine Railroad; examination, study and report with estimate for steel girder.
- Revere — Beach Street over Boston, Revere Beach and Lynn Railroad; examination, study, report and estimate for steel girder.
- Revere — Road over Parkway and Winthrop Street; study, report and estimate for steel girder.
- Revere — Road over Belle Isle Inlet; study, report and estimate for concrete beam.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY.

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1928, was 365. In 1927 the number of such openings was 200; in 1926 the number reached 209; and in 1925 amounted to 169.

The total expenditure during the year was \$4,500.21.

The total expenditure from 1912 to Nov. 30, 1928, inclusive, was \$138,167.07.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET.

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and of operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1928, was 1,982. In 1927 the number of such openings was 2,043; in 1926 the number reached 1,617; and in 1925 amounted to 2,406.

The total expenditure during the year was \$15,927.24.

The total expenditure from 1912 to Nov. 30, 1928, inclusive, was \$300,451.83.

CONSTRUCTION OF TOWN AND COUNTY WAYS.

(Section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, section 1, chapter 288, Acts of 1925, and by Section 6, chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties: —

COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length contracted for (Feet).
<i>Barnstable County.</i>					
Brewster . . . .	\$10,000 00	\$5,000 00	\$5,000 00	Bituminous concrete . .	4,600
Dennis . . . . .	20,000 00	10,000 00	10,000 00	Bituminous concrete . .	10,226
Harwich . . . . .	12,000 00	6,000 00	6,000 00	Bituminous concrete . .	6,675



COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length con- tracted for (Feet).
<i>Berkshire County.</i>					
Alford . . . . .	\$1,000 00	\$500 00	\$500 00	Gravel . . . . .	800
Becket . . . . .	24,000 00	—	8,000 00	Bituminous macadam and gravel, including two bridges and approaches . .	1,872
Becket . . . . .	3,600 00	—	1,200 00	Bridge and approach . . .	—
Cheshire . . . . .	2,400 00	2,000 00	1,000 00	Flood repairs . . . . .	—
Clarksburg . . . . .	4,000 00	2,000 00	2,000 00	Bridge repairs . . . . .	—
Egremont . . . . .	1,200 00	1,200 00	1,200 00	Gravel . . . . .	750
Florida . . . . .	2,500 00	2,500 00	—	Gravel . . . . .	700
Great Barrington . . . . .	8,000 00	8,000 00	—	Gravel . . . . .	3,600
Hancock . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	700
Hancock . . . . .	600 00	—	—	Flood repairs . . . . .	—
Lenox . . . . .	10,000 00	25,000 00	—	Reinforced cement concrete	1,138
Monterey . . . . .	2,000 00	500 00	2,000 00	Bituminous macadam . . .	1,100
Monterey . . . . .	2,000 00	—	—	Flood repairs . . . . .	—
Mount Washington . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	400
New Marlborough . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,800
New Marlborough . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,320
Otis . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	500
Sandisfield . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,100
Savoy . . . . .	19,500 00	—	6,500 00	Gravel . . . . .	5,076
Savoy . . . . .	2,650 00	—	—	Flood repairs . . . . .	—
Sheffield . . . . .	1,000 00	1,000 00	500 00	Gravel . . . . .	650
Tyringham . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . .	1,000
Tyringham . . . . .	2,400 00	—	800 00	Flood repairs . . . . .	—
West Stockbridge . . . . .	6,000 00	3,000 00	3,000 00	Gravel . . . . .	2,500
Williamstown . . . . .	2,000 00	4,000 00	—	Gravel . . . . .	1,917
Williamstown . . . . .	6,000 00	6,000 00	—	Bituminous macadam . . .	665
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	450
Windsor . . . . .	1,000 00	500 00	500 00	Flood repairs . . . . .	—
Windsor . . . . .	1,000 00	—	—	Gravel . . . . .	450
Windsor . . . . .	1,000 00	—	—	Flood repairs . . . . .	—
<i>Bristol County.</i>					
Acushnet . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . .	3,650
Berkley . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	2,795
Berkley . . . . .	2,000 00	2,000 00	—	Repairs and oiling . . . .	36,880
Dartmouth . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	4,776
Dighton . . . . .	14,000 00	14,000 00	—	Bituminous macadam . . .	4,335
Freetown . . . . .	500 00	500 00	500 00	Gravel . . . . .	300
Freetown . . . . .	6,000 00	2,000 00	6,000 00	Waterbound macadam . . .	6,000
Norton . . . . .	3,000 00	1,000 00	2,000 00	Gravel . . . . .	2,200
Raynham . . . . .	1,000 00	1,000 00	—	Bituminous macadam . . .	1,180
Rehoboth . . . . .	6,000 00	6,000 00	6,000 00	Waterbound macadam . . .	3,100
<i>Essex County.</i>					
Andover . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . .	3,100
Beverly . . . . .	9,000 00	18,000 00	9,000 00	Bituminous macadam . . .	5,020
Boxford . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,700
Boxford . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,075
Danvers . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	3,750
Essex . . . . .	2,500 00	2,500 00	—	Repairs and oiling . . . .	25,660
Georgetown . . . . .	17,000 00	3,000 00	10,000 00	Bituminous macadam . . .	3,250
Gloucester . . . . .	15,000 00	15,000 00	12,000 00	Bituminous macadam . . .	5,275
Groveland . . . . .	14,000 00	3,400 00	7,300 00	Bituminous macadam . . .	5,403
Hamilton . . . . .	6,500 00	6,500 00	6,500 00	Bituminous macadam . . .	3,376
Haverhill . . . . .	7,000 00	14,000 00	7,000 00	Bituminous macadam . . .	1,628
Lynnfield . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	3,210
Methuen . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	5,126
Middleton . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,400
Newbury . . . . .	3,300 00	3,300 00	3,300 00	Waterbound macadam and gravel . . . . .	3,375
Peabody . . . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam . . .	5,300
Rowley . . . . .	500 00	500 00	—	Repairs . . . . .	11,000
Rowley . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,500
Salem . . . . .	6,000 00	12,000 00	6,000 00	Bituminous macadam . . .	3,638
Saugus . . . . .	2,500 00	6,500 00	6,500 00	Bituminous macadam . . .	2,205
West Newbury . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,185
<i>Franklin County.</i>					
Ashfield . . . . .	5,000 00	1,500 00	1,000 00	Gravel . . . . .	2,000
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	1,000
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	800
Buckland . . . . .	6,000 00	1,000 00	1,000 00	Bituminous macadam . . .	2,125
Charlemont . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Colrain . . . . .	12,000 00	1,000 00	3,000 00	Bituminous macadam . . .	1,683
Conway . . . . .	2,000 00	3,500 00	—	Bridge . . . . .	—
Erving . . . . .	1,100 00	1,100 00	—	Repairs and calcium chloride	10,032
Gill . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,600
Gill . . . . .	1,200 00	1,200 00	—	Repairs and oiling . . . .	35,613
Greenfield . . . . .	2,000 00	1,500 00	1,000 00	Bituminous macadam . . .	1,200
Hawley . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	500
Hawley . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	750
Hawley . . . . .	800 00	—	400 00	Flood repairs . . . . .	—
Heath . . . . .	2,000 00	1,000 00	1,000 00	Bridge and approaches . .	—
Leverett . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,200
Leverett . . . . .	500 00	—	500 00	Gravel . . . . .	600

COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length con- tracted for (Feet).
<i>Franklin County — Con.</i>					
Leyden . . . . .	\$1,000 00	\$500 00	\$500 00	Gravel . . . . .	550
Montague . . . . .	2,300 00	1,150 00	1,150 00	Gravel . . . . .	2,600
New Salem . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,400
Northfield . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Orange . . . . .	1,500 00	1,500 00	500 00	Gravel . . . . .	3,100
Orange . . . . .	130 00	130 00	—	Calcium Chloride . . . . .	7,313
Rowe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,700
Shelburne . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	1,200
Shutesbury . . . . .	1,600 00	800 00	800 00	Gravel . . . . .	1,750
Sunderland . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,850
Warwick . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	600
Warwick . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	700
Wendell . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,200
Whately . . . . .	7,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	2,100
<i>Hampden County.</i>					
Blandford . . . . .	12,500 00	2,500 00	12,500 00	Bituminous macadam . . . . .	3,290
Blandford . . . . .	1,500 00	—	1,500 00	Grading . . . . .	450
Brimfield . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,700
Chester . . . . .	3,000 00	—	1,000 00	Bridge repairs . . . . .	—
Chester . . . . .	1,000 00	—	1,000 00	Flood repairs . . . . .	—
Chester . . . . .	500 00	500 00	500 00	Gravel . . . . .	525
Chester . . . . .	1,000 00	—	1,000 00	Flood repairs . . . . .	—
Chester . . . . .	500 00	500 00	500 00	Gravel . . . . .	500
Chester . . . . .	3,250 00	500 00	3,250 00	Gravel . . . . .	2,100
Chester . . . . .	1,000 00	—	1,000 00	Gravel . . . . .	650
East Longmeadow . . . . .	2,750 00	2,750 00	2,750 00	Bituminous macadam . . . . .	3,200
Granville . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	2,928
Hampden . . . . .	5,600 00	2,800 00	5,600 00	Bituminous macadam . . . . .	3,200
Holland . . . . .	2,000 00	500 00	2,000 00	Gravel . . . . .	1,200
Longmeadow . . . . .	50,000 00	25,000 00	25,000 00	Reinforced concrete . . . . .	5,580
Ludlow . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	6,150
Montgomery . . . . .	1,000 00	600 00	1,000 00	Gravel . . . . .	970
Palmer . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	4,270
Russell . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	850
Russell . . . . .	600 00	600 00	600 00	Bridge repairs . . . . .	—
Southwick . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,460
Tolland . . . . .	3,000 00	1,500 00	3,000 00	Gravel . . . . .	2,075
Westfield . . . . .	4,000 00	5,000 00	4,000 00	Gravel . . . . .	7,000
Westfield . . . . .	500 00	—	—	Drainage . . . . .	—
Wilbraham . . . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . . . .	1,700
Wilbraham . . . . .	3,500 00	3,500 00	3,500 00	Bituminous macadam . . . . .	2,550
<i>Hampshire County.</i>					
Belchertown . . . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	3,250
Belchertown . . . . .	2,500 00	—	—	Bituminous macadam . . . . .	1,100
Chesterfield . . . . .	500 00	500 00	500 00	Gravel . . . . .	450
Chesterfield . . . . .	5,000 00	3,000 00	4,000 00	Bridge and approaches . . . . .	—
Goshen . . . . .	2,300 00	1,000 00	1,000 00	Gravel . . . . .	1,550
Granby . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	900
Granby . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	900
Greenwich . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,400
Hadley . . . . .	21,000 00	15,000 00	16,000 00	Gravel . . . . .	11,326
Hadley . . . . .	1,200 00	2,400 00	—	Flood repairs . . . . .	100
Huntington . . . . .	1,500 00	500 00	1,000 00	Gravel . . . . .	800
Middlefield . . . . .	3,600 00	—	1,200 00	Bridge and approach . . . . .	—
Middlefield . . . . .	800 00	—	—	Gravel . . . . .	3,000
Middlefield . . . . .	2,000 00	500 00	500 00	Gravel . . . . .	700
Northampton . . . . .	5,000 00	5,000 00	3,000 00	Gravel . . . . .	6,000
Pelham . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,600
Plainfield . . . . .	10,000 00	1,000 00	3,000 00	Gravel . . . . .	3,181
Plainfield . . . . .	18,500 00	—	—	Gravel . . . . .	1,750
South Hadley . . . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . . . .	850
Westhampton . . . . .	1,700 00	750 00	750 00	Gravel . . . . .	2,200
Worthington . . . . .	1,000 00	500 00	—	Gravel . . . . .	4,640
Worthington . . . . .	700 00	500 00	500 00	Gravel . . . . .	550
<i>Middlesex County.</i>					
Acton . . . . .	3,000 00	3,000 00	3,000 00	Bridge and approaches . . . . .	—
Ashby . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	17,952
Ashland . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	15,312
Bedford . . . . .	500 00	500 00	500 00	Repairs . . . . .	1,000
Belmont . . . . .	18,000 00	18,000 00	18,000 00	Bituminous macadam . . . . .	5,260
Billerica . . . . .	12,500 00	12,500 00	12,500 00	Bituminous macadam . . . . .	4,252
Billerica . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	3,060
Boxborough . . . . .	500 00	500 00	500 00	Gravel . . . . .	725
Boxborough . . . . .	1,000 00	650 00	1,000 00	Gravel . . . . .	1,025
Boxborough . . . . .	650 00	650 00	650 00	Oiling . . . . .	26,400
Burlington . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	2,400
Burlington . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,200
Burlington . . . . .	2,000 00	2,000 00	1,000 00	Repairs and oiling . . . . .	36,432
Carlisle . . . . .	700 00	700 00	700 00	Repairs and oiling . . . . .	40,128
Carlisle . . . . .	800 00	800 00	800 00	Gravel . . . . .	1,260
Carlisle . . . . .	6,400 00	3,200 00	6,400 00	Gravel . . . . .	5,600
Carlisle . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Chelmsford . . . . .	3,300 00	3,300 00	3,300 00	Bituminous macadam . . . . .	5,113
Chelmsford . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	3,000
Dracut . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	3,200



COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length con- tracted for (Feet).
<i>Middlesex County — Con</i>					
Dracut . . . . .	\$3,000 00	\$3,000 00	\$3,000 00	Gravel . . . . .	3,600
Dunstable . . . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . . . .	41,184
Framingham . . . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . . . . .	2,250
Groton . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	5,072
Groton . . . . .	600 00	600 00	600 00	Gravel . . . . .	1,787
Groton . . . . .	1,000 00	2,000 00	1,000 00	Repairs and oiling . . . . .	12,988
Hopkinton . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	850
Hopkinton . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	57,024
Lexington . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . . . .	4,450
Lexington . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	18,000
Littleton . . . . .	1,200 00	1,200 00	1,200 00	Repairs and oiling . . . . .	32,208
Littleton . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,200
Littleton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,700
Lowell . . . . .	9,000 00	42,000 00	9,000 00	Reinforced cement concrete . . . . .	7,180
Lowell . . . . .	12,000 00	24,000 00	12,000 00	Bituminous macadam . . . . .	7,500
Malden . . . . .	5,000 00	15,000 00	5,000 00	Reinforced cement concrete . . . . .	2,283
Maynard . . . . .	14,000 00	14,000 00	14,000 00	Bridge and approaches . . . . .	—
Medford . . . . .	5,000 00	10,000 00	5,000 00	Reinforced cement concrete . . . . .	1,825
North Reading . . . . .	2,500 00	2,500 00	2,500 00	Repairs and oiling . . . . .	48,840
Pepperell . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	32,450
Sherborn . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	66,528
Stow . . . . .	2,500 00	2,500 00	2,500 00	Repairs and oiling . . . . .	36,960
Sudbury . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . . . .	77,088
Tewksbury . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	3,696
Tewksbury . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	12,144
Townsend . . . . .	1,500 00	—	1,500 00	Repairs and oiling . . . . .	19,060
Townsend . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	4,300
Tyngsborough . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,500
Tyngsborough . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . . . .	38,544
Wakefield . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,050
Waltham . . . . .	15,000 00	15,000 00	15,000 00	Reinforced cement concrete . . . . .	4,550
Watertown . . . . .	20,000 00	20,000 00	20,000 00	Reinforced cement concrete . . . . .	5,150
Wayland . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	6,002
Wayland . . . . .	2,100 00	—	2,100 00	Bridge approaches . . . . .	—
Wayland . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	42,240
Westford . . . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . . . . .	70,224
Westford . . . . .	3,333 00	3,333 00	3,333 00	Gravel . . . . .	3,500
Weston . . . . .	12,500 00	12,500 00	12,500 00	Bituminous macadam . . . . .	3,700
Wilmington . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	19,536
Wilmington . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,000
Wilmington . . . . .	3,500 00	—	—	Bituminous concrete . . . . .	300
<i>Nantucket County.</i>					
Nantucket . . . . .	10,000 00	10,000 00	—	Bituminous concrete . . . . .	4,850
<i>Norfolk County.</i>					
Avon . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	1,850
Bellingham . . . . .	2,650 00	1,325 00	1,325 00	Repairs and oiling . . . . .	23,700
Bellingham . . . . .	10,000 00	5,000 00	5,000 00	Gravel . . . . .	3,908
Canton . . . . .	10,000 00	20,000 00	10,000 00	Bituminous macadam . . . . .	4,500
Canton . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	1,150
Dedham . . . . .	48,000 00	—	16,000 00	Bridge and approaches . . . . .	—
Franklin . . . . .	7,000 00	7,000 00	7,000 00	Gravel . . . . .	6,904
Medfield . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,650
Medway . . . . .	20,000 00	10,000 00	10,000 00	Bituminous macadam and gravel . . . . .	5,550
Millis . . . . .	16,000 00	8,000 00	8,000 00	Bituminous macadam and gravel . . . . .	6,235
Millis . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	3,350
Milton . . . . .	9,000 00	9,000 00	9,000 00	Bituminous macadam . . . . .	1,985
Needham . . . . .	15,000 00	20,000 00	15,000 00	Bituminous macadam . . . . .	6,397
Norfolk . . . . .	7,500 00	2,500 00	5,000 00	Bituminous macadam . . . . .	4,169
Norfolk . . . . .	1,000 00	1,000 00	—	Repairs and oiling . . . . .	21,648
Norwood . . . . .	8,000 00	8,000 00	8,000 00	Reinforced cement concrete . . . . .	1,160
Randolph . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	3,300
Randolph . . . . .	12,000 00	12,000 00	12,000 00	Gravel . . . . .	4,521
Sharon . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	4,100
Westwood . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	5,258
<i>Plymouth County.</i>					
Duxbury . . . . .	10,000 00	10,000 00	8,000 00	Bituminous concrete . . . . .	7,600
East Bridgewater . . . . .	18,500 00	18,500 00	13,000 00	Bituminous concrete . . . . .	12,786
Halifax . . . . .	18,000 00	7,000 00	7,000 00	Bituminous concrete . . . . .	6,950
Hanson . . . . .	14,000 00	7,000 00	7,000 00	Bituminous concrete . . . . .	5,900
Kingston . . . . .	10,600 00	8,200 00	7,000 00	Bituminous concrete . . . . .	4,200
Lakeville . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,900
Mattapoisett . . . . .	17,000 00	6,000 00	6,000 00	Bituminous macadam . . . . .	6,123
Middleborough . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	3,600
Pembroke . . . . .	23,000 00	7,000 00	10,000 00	Bituminous macadam . . . . .	8,100
Plympton . . . . .	13,150 00	6,500 00	12,000 00	Bituminous concrete . . . . .	7,070
Rochester . . . . .	9,250 00	3,750 00	2,000 00	Gravel . . . . .	8,472
Rochester . . . . .	3,400 00	600 00	—	Bituminous macadam . . . . .	527
Wareham . . . . .	6,300 00	3,900 00	1,500 00	Bituminous concrete . . . . .	3,900
<i>Worcester County.</i>					
Ashburnham . . . . .	500 00	500 00	500 00	Repairs . . . . .	1,800
Barre . . . . .	250 00	250 00	250 00	Repairs . . . . .	12,144
Berlin . . . . .	6,500 00	3,000 00	6,500 00	Bituminous macadam . . . . .	2,900

COUNTIES AND TOWNS.	State.	CONTRIBUTIONS. Town.	County.	Type of Road.	Length con- tracted for (Feet).
<i>Worcester County — Con.</i>					
Blackstone . . . .	\$3,500 00	\$3,500 00	\$3,500 00	Gravel . . . . .	3,150
Bolton . . . . .	6,650 00	1,330 00	6,650 00	Bituminous macadam . . .	1,710
Bolton . . . . .	270 00	270 00	270 00	Repairs and oiling . . .	9,466
Bolton . . . . .	5,000 00	1,000 00	5,000 00	Bituminous macadam . . .	2,150
Boylston . . . . .	500 00	500 00	500 00	Repairs and oiling . . .	33,066
Boylston . . . . .	20,000 00	3,500 00	12,000 00	Bituminous macadam . . .	4,950
Brookfield . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,850
Dana . . . . .	2,500 00	1,000 00	2,500 00	Gravel . . . . .	2,000
Dudley . . . . .	800 00	800 00	—	Repairs and oiling . . .	13,522
Hardwick . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	3,800
Holden . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	4,200
Hubbardston . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,200
Hubbardston . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . .	42,240
Lancaster . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	4,670
Lunenburg . . . . .	12,000 00	10,000 00	12,000 00	Gravel . . . . .	8,650
Lunenburg . . . . .	500 00	500 00	500 00	Repairs and oiling . . .	3,696
Lunenburg . . . . .	1,000 00	500 00	500 00	Repairs and oiling . . .	10,100
Mendon . . . . .	2,160 00	1,000 00	2,160 00	Gravel . . . . .	1,500
Mendon . . . . .	600 00	300 00	600 00	Repairs and oiling . . .	16,484
Millville . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,100
Oakham . . . . .	3,000 00	1,500 00	3,000 00	Gravel . . . . .	2,000
Oxford . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	3,750
Petersham . . . . .	5,000 00	3,000 00	5,000 00	Gravel . . . . .	3,050
Phillipston . . . . .	10,500 00	500 00	10,500 00	Gravel . . . . .	4,954
Phillipston . . . . .	3,000 00	1,000 00	3,000 00	Gravel . . . . .	2,450
Princeton . . . . .	2,600 00	1,300 00	2,600 00	2 Bridges and approaches .	—
Princeton . . . . .	1,600 00	800 00	1,600 00	Gravel . . . . .	1,000
Princeton . . . . .	8,325 00	—	10,175 00	Gravel . . . . .	3,850
Princeton . . . . .	660 00	220 00	660 00	Oiling . . . . .	7,230
Royalston . . . . .	6,850 00	3,000 00	6,850 00	Gravel . . . . .	3,131
Rutland . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	24,575
Southborough . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	2,850
Spencer . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,360
Sterling . . . . .	3,000 00	1,500 00	3,000 00	Two bridges and approaches	—
Sutton . . . . .	10,000 00	5,000 00	10,000 00	Gravel . . . . .	6,948
Sutton . . . . .	12,000 00	—	4,000 00	Bridge and approaches . .	—
Templeton . . . . .	4,500 00	9,000 00	4,500 00	Bridge . . . . .	—
Upton . . . . .	7,500 00	—	2,500 00	Flood repairs . . . . .	—
Warren . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	2,000
West Boylston . . . . .	3,000 00	2,000 00	3,000 00	Gravel . . . . .	1,166
West Boylston . . . . .	500 00	500 00	500 00	Repairs and oiling . . .	4,436
Westminster . . . . .	2,000 00	2,000 00	—	Gravel . . . . .	2,640
Westminster . . . . .	9,000 00	—	11,000 00	Gravel . . . . .	5,350
Westminster . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,000

The expenditures during the year in various counties were: —

Barnstable, \$40,238.34	Hampshire, \$102,497.10
Berkshire, \$180,036.58	Middlesex, \$274,699.32
Bristol, \$61,838.62	Nantucket, \$12,499.67
Essex, \$147,983.77	Norfolk, \$228,679.84
Franklin, \$90,058.58	Plymouth, \$166,237.35
Hampden, \$166,273.20	Worcester, \$256,668.50
	Total, \$1,727,710.87

Details of the foregoing expenditures follow: —

*Barnstable County.* — Barnstable, \$1,838.24; Brewster, \$9,269.01; Dennis, \$16,134.44; Harwich, \$12,323.85; Yarmouth, \$672.80.

*Berkshire County.* — Alford, \$1,249.97; Becket, \$34,576.83; Cheshire, \$2,999.92; Clarksburg, \$6,874.82; Egremont, \$1,499.96; Florida, \$3,124.92; Great Barrington, \$10,882.82; Hancock, \$6,657.58; Lenox, \$11,506.78; Monterey, \$4,999.87; Mt. Washington, \$1,249.97; New Marlborough, \$5,622.45; Otis, \$7,507.54; Peru, \$8,717.20; Sandisfield, \$2,499.93; Savoy, \$27,454.19; Sheffield, \$1,249.97; Tyringham, \$5,499.86; West Stockbridge, \$18,738.25; Williamstown, \$12,125.80; Windsor, \$4,997.95.

*Bristol County.* — Acushnet, \$7,827.82; Berkley, \$7,317.04; Dartmouth, \$10,351.84; Dighton, \$17,397.05; Freetown, \$7,915.93; Norton, \$3,749.90; Raynham, \$1,249.97; Rehoboth, \$6,029.07.

*Essex County.* — Andover, \$10,832.01; Beverly, \$6,854.08; Boxford, \$3,749.90; Danvers, \$12,112.07; Essex, \$3,124.92; Georgetown, \$14,717.24; Gloucester, \$17,845.53; Groveland, \$20,721.38; Hamilton, \$7,071.28; Haverhill, \$4,405.31; Lynnfield, \$5,245.06; Methuen, \$10,574.88; Middleton, \$2,499.93; Newbury, \$2,900.69; Peabody, \$5,275.90; Rockport, \$3,618.82; Rowley, \$1,874.95; Salem, \$5,316.61; Salisbury, \$961.66; Saugus, \$4,180.15; West Newbury, \$4,101.40.



*Franklin County.* — Ashfield, \$9,999.74; Buckland, \$7,499.82; Charlemont, \$2,499.93; Colrain, \$10,603.57; Conway, \$2,215.90; Erving, \$1,057.06; Gill, \$8,844.56; Greenfield, \$2,499.93; Hawley, \$3,499.91; Heath, \$2,499.93; Leverett, \$1,874.95; Leyden, \$1,249.97; Montague, \$2,874.93; New Salem, \$2,499.93; Northfield, \$2,499.93; Orange, \$2,037.45; Rowe, \$2,499.93; Shelburne, \$3,801.66; Shutesbury, \$1,999.95; Sunderland, \$2,499.93; Warwick, \$2,499.93; Wendell, \$3,749.89; Whately, \$8,749.78.

*Hampden County.* — Agawam, \$22,719.29; Blandford, \$15,922.17; Brimfield, \$1,627.80; Chester, \$16,929.66; East Longmeadow, \$3,422.17; Granville, \$4,999.87; Hampden, \$8,374.78; Holland, \$2,499.93; Longmeadow, \$57,473.04; Ludlow, \$8,668.50; Montgomery, \$1,249.97; Russell, \$4,261.49; Southwick, \$2,499.93; Tolland, \$3,749.90; Westfield, \$5,624.85; Wilbraham, \$6,249.85.

*Hampshire County.* — Belchertown, \$8,124.70; Chesterfield, \$6,160.84; Goshen, \$2,874.93; Granby, \$5,203.34; Greenwich, \$1,249.97; Hadley, \$27,267.75; Huntington, \$1,872.65; Middlefield, \$6,855.11; Northampton, \$6,249.84; Pelham, \$1,249.97; Plainfield, \$26,927.28; South Hadley, \$1,810.98; Ware, \$2,399.88; Westhampton, \$2,124.95; Worthington, \$2,124.91.

*Middlesex County.* — Acton, \$7,052.22; Ashby, \$1,249.96; Ashland, \$1,249.97; Ayer, \$2,763.78; Bedford, \$588.17; Belmont, \$17,367.77; Billerica, \$11,933.90; Boxborough, \$2,347.95; Burlington, \$8,748.91; Carlisle, \$10,394.98; Chelmsford, \$5,374.86; Dracut, \$7,482.43; Dunstable, \$2,187.44; Framingham, \$6,236.21; Groton, \$7,454.81; Hopkinton, \$4,998.20; Lexington, \$15,368.69; Littleton, \$6,098.14; Lowell, \$15,413.65; Maynard, \$12,204.20; Malden, \$6,808.79; Marlborough, \$4,306.64; Medford, \$10,301.38; North Reading, \$3,124.92; Pepperell, \$6,182.90; Sherborn, \$2,499.93; Stow, \$3,124.92; Sudbury, \$4,999.87; Tewksbury, \$1,249.97; Townsend, \$5,624.85; Tyngsborough, \$4,145.72; Wakefield, \$3,620.17; Waltham, \$14,921.32; Watertown, \$10,166.40; Wayland, \$18,390.06; Westford, \$9,113.91; Weston, \$13,220.93; Wilmington, \$6,380.40.

*Nantucket County.* — Nantucket, \$12,499.67.

*Norfolk County.* — Avon, \$3,731.18; Bellingham, \$17,603.66; Braintree, \$3,463.49; Canton, \$19,912.45; Dedham, \$41,074.02; Franklin, \$8,749.77; Medfield, \$11,265.95; Medway, \$23,165.55; Millis, \$21,748.18; Milton, \$12,010.25; Needham, \$12,061.96; Norfolk, \$9,965.65; Norwood, \$9,999.74; Randolph, \$14,479.06; Sharon, \$4,963.02; Westwood, \$14,485.91.

*Plymouth County.* — Duxbury, \$10,015.45; East Bridgewater, \$19,739.51; Halifax, \$21,819.88; Hanson, \$13,990.60; Hingham, \$1,849.39; Kingston, \$8,058.78; Lakeville, \$12,303.01; Mattapoisett, \$16,827.45; Middleborough, \$1,874.95; Pembroke, \$22,957.68; Plympton, \$18,073.93; Rochester, \$10,122.32; Wareham, \$7,589.19; West Bridgewater, \$1,015.21.

*Worcester County.* — Ashburnham, \$7,364.14; Barre, \$310.52; Berlin, \$6,444.60; Blackstone, \$2,886.64; Bolton, \$10,143.17; Boylston, \$25,573.84; Brookfield, \$2,499.93; Dana, \$3,124.92; Dudley, \$751.07; Hardwick, \$1,520.19; Harvard, \$5,605.84; Holden, \$6,458.43; Hubbardston, \$3,748.78; Lancaster, \$13,012.70; Lunenburg, \$11,702.07; Mendon, \$3,622.63; Millville, \$2,454.66; New Braintree, \$1,117.11; Oakham, \$3,749.90; Oxford, \$18,384.82; Petersham, \$3,704.92; Philipston, \$13,391.83; Princeton, \$15,435.42; Royalston, \$6,714.34; Rutland, \$6,014.67; Southborough, \$8,719.19; Spencer, \$6,829.21; Sterling, \$3,863.81; Sutton, \$30,823.00; Templeton, \$13,677.28; Warren, \$2,499.56; West Boylston, \$2,931.07; West Brookfield, \$7,546.84; Westminster, \$4,041.40.

## REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of Chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1921, by chapter 281, Acts of 1922, and by chapter 315, Acts of 1926.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns: —

Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$3,000 00
Dennis . . . . .	80	8,000 00	6,000 00
Eastham . . . . .	40	4,000 00	2,000 00
Harwich . . . . .	74	7,400 00	7,400 00
Mashpee . . . . .	26	2,600 00	1,300 00
Sandwich . . . . .	66	6,600 00	4,950 00
Truro . . . . .	27	2,700 00	2,025 00
Wellfleet . . . . .	35	3,500 00	2,625 00
Yarmouth . . . . .	61	6,100 00	6,100 00
<i>Berkshire County:</i>			
Alford . . . . .	20	2,000 00	800 00
Becket . . . . .	58	5,800 00	2,320 00
Cheshire . . . . .	42	4,200 00	3,150 00
Egremont . . . . .	31	3,100 00	2,325 00
Florida . . . . .	42	4,200 00	3,150 00
Hancock . . . . .	30	3,000 00	1,500 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	39	3,900 00	2,925 00
Monterey . . . . .	53	5,300 00	1,325 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	48	4,800 00	1,200 00
Peru . . . . .	37	3,700 00	555 00
Richmond . . . . .	36	3,600 00	1,800 00
Sandisfield . . . . .	84	8,400 00	1,260 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,250 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	38	3,800 00	3,800 00
Windsor . . . . .	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	4,700 00
Norton . . . . .	57	5,700 00	7,125 00
Raynham . . . . .	44	4,400 00	4,400 00
Rehoboth . . . . .	108	10,800 00	5,400 00
Swansea . . . . .	50	5,000 00	7,500 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,050 00
<i>Essex County:</i>			
Boxford . . . . .	52	5,200 00	2,600 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	30	3,000 00	4,500 00
Merrimac . . . . .	30	3,000 00	4,500 00
Middleton . . . . .	29	2,900 00	3,625 00
Newbury . . . . .	36	3,600 00	5,400 00
Rowley . . . . .	30	3,000 00	3,750 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	82	8,200 00	3,280 00
Bernardston . . . . .	41	4,100 00	2,050 00
Buckland . . . . .	44	4,400 00	6,600 00
Charlemont . . . . .	50	5,000 00	2,500 00



Counties and Towns.	Miles of Road.	Allotments.	
		State.	Town.
<i>Franklin County—Con.</i>			
Colrain . . . . .	86	\$8,600 00	\$6,450 00
Conway . . . . .	76	7,600 00	1,900 00
Gill . . . . .	36	3,600 00	2,700 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	54	5,400 00	810 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	41	4,100 00	615 00
Monroe . . . . .	18	1,800 00	2,250 00
New Salem . . . . .	64	6,400 00	1,600 00
Northfield . . . . .	68	6,800 00	5,100 00
Rowe . . . . .	41	4,100 00	1,025 00
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Sunderland . . . . .	34	3,400 00	3,400 00
Warwick . . . . .	55	5,500 00	1,375 00
Wendell . . . . .	47	4,700 00	1,880 00
Whately . . . . .	41	4,100 00	3,075 00
<i>Hampden County:</i>			
Blandford . . . . .	83	8,300 00	2,075 00
Brimfield . . . . .	60	6,000 00	3,000 00
Chester . . . . .	66	6,600 00	4,950 00
Granville . . . . .	73	7,300 00	1,825 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Montgomery . . . . .	27	2,700 00	675 00
Southwick . . . . .	50	5,000 00	5,000 00
Tolland . . . . .	41	4,100 00	1,025 00
Wales . . . . .	25	2,500 00	1,250 00
<i>Hampshire County:</i>			
Belchertown . . . . .	115	11,500 00	4,600 00
Chesterfield . . . . .	58	5,800 00	870 00
Cummington . . . . .	49	4,900 00	1,225 00
Enfield . . . . .	37	3,700 00	1,850 00
Goshen . . . . .	28	2,800 00	700 00
Granby . . . . .	46	4,600 00	2,300 00
Greenwich . . . . .	39	3,900 00	1,560 00
Huntington . . . . .	39	3,900 00	3,900 00
Middlefield . . . . .	38	3,800 00	570 00
Pelham . . . . .	40	4,000 00	1,600 00
Plainfield . . . . .	49	4,900 00	735 00
Prescott . . . . .	39	3,900 00	585 00
Southampton . . . . .	57	5,700 00	2,280 00
Westhampton . . . . .	48	4,800 00	720 00
Williamsburg . . . . .	46	4,600 00	4,600 00
Worthington . . . . .	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton . . . . .	58	5,800 00	7,250 00
Ashby . . . . .	57	5,700 00	2,850 00
Ashland . . . . .	38	3,800 00	5,700 00
Boxborough . . . . .	23	2,300 00	920 00
Burlington . . . . .	31	3,100 00	3,875 00
Carlisle . . . . .	43	4,300 00	1,720 00
Dunstable . . . . .	36	3,600 00	1,440 00
Holliston . . . . .	50	5,000 00	7,500 00
Hopkinton . . . . .	66	6,600 00	6,600 00
Lincoln . . . . .	40	4,000 00	6,000 00
Littleton . . . . .	41	4,100 00	4,100 00

Counties and Towns.	Miles of Road.	Allotments.		18
		State.	Town.	
<i>Middlesex County—Con.</i>				
North Reading . . . . .	28	\$2,800 00	\$4,200 00	
Sherborn . . . . .	42	4,200 00	4,200 00	
Shirley . . . . .	46	4,600 00	5,750 00	
Stow . . . . .	45	4,500 00	4,500 00	
Sudbury . . . . .	61	6,100 00	4,575 00	
Tewksbury . . . . .	55	5,500 00	6,875 00	
Townsend . . . . .	70	7,000 00	5,250 00	
Tyngsborough . . . . .	41	4,100 00	3,075 00	
Wilmington . . . . .	43	4,300 00	6,450 00	
<i>Norfolk County:</i>				
Bellingham . . . . .	42	4,200 00	5,250 00	
Medfield . . . . .	40	4,000 00	6,000 00	
Medway . . . . .	44	4,400 00	6,600 00	
Millis . . . . .	38	3,800 00	5,700 00	
Norfolk . . . . .	41	4,100 00	4,100 00	
Plainville . . . . .	34	3,400 00	4,250 00	
Wrentham . . . . .	46	4,600 00	5,750 00	
<i>Plymouth County:</i>				
Carver . . . . .	67	6,700 00	6,700 00	
Halifax . . . . .	32	3,200 00	3,200 00	
Hanson . . . . .	35	3,500 00	5,250 00	
Lakeville . . . . .	45	4,500 00	3,375 00	
Norwell . . . . .	47	4,700 00	4,700 00	
Pembroke . . . . .	47	4,700 00	5,875 00	
Plympton . . . . .	30	3,000 00	2,250 00	
Rochester . . . . .	49	4,900 00	3,675 00	
West Bridgewater . . . . .	39	3,900 00	5,850 00	
<i>Worcester County:</i>				
Ashburnham . . . . .	77	7,700 00	5,775 00	
Berlin . . . . .	39	3,900 00	2,925 00	
Bolton . . . . .	53	5,300 00	2,120 00	
Boylston . . . . .	40	4,000 00	2,000 00	
Brookfield . . . . .	36	3,600 00	3,600 00	
Charlton . . . . .	110	11,000 00	5,550 00	
Dana . . . . .	45	4,500 00	1,800 00	
Douglas . . . . .	70	7,000 00	5,250 00	
East Brookfield . . . . .	19	1,900 00	2,375 00	
Harvard . . . . .	56	5,600 00	4,200 00	
Holden . . . . .	77	7,700 00	7,700 00	
Hubbardston . . . . .	75	7,500 00	3,000 00	
Lancaster . . . . .	59	5,900 00	7,375 00	
Lunenburg . . . . .	65	6,500 00	4,875 00	
Mendon . . . . .	36	3,600 00	2,700 00	
New Braintree . . . . .	49	4,900 00	1,225 00	
North Brookfield . . . . .	69	6,900 00	8,625 00	
Northborough . . . . .	47	4,700 00	5,875 00	
Oakham . . . . .	45	4,500 00	1,125 00	
Paxton . . . . .	29	2,900 00	2,125 00	
Petersham . . . . .	71	7,100 00	5,325 00	
Phillipston . . . . .	41	4,100 00	1,025 00	
Princeton . . . . .	72	7,200 00	2,880 00	
Royalston . . . . .	67	6,700 00	3,350 00	
Rutland . . . . .	68	6,800 00	3,400 00	
Southborough . . . . .	48	4,800 00	7,200 00	
Sterling . . . . .	72	7,200 00	3,600 00	
Sturbridge . . . . .	76	7,600 00	3,800 00	
Sutton . . . . .	84	8,400 00	6,300 00	



Counties and Towns. <i>Worcester County</i> —Con.	Miles of Road.	Allotments.	
		State.	Town.
Upton . . . . .	60	\$6,000 00	\$4,500 00
West Boylston . . . . .	35	3,500 00	3,500 00
West Brookfield . . . . .	53	5,300 00	3,975 00
Westminster . . . . .	77	7,700 00	3,080 00

The expenditures during the year in various counties were:—

Barnstable, \$47,292.97	Hampden, \$40,214.75
Berkshire, \$91,685.47	Hampshire, \$84,686.32
Bristol, \$37,688.32	Middlesex, \$103,642.85
Dukes, \$1,507.53	Norfolk, \$30,865.43
Essex, \$34,222.71	Plymouth, \$43,102.44
Franklin, \$113,325.32	Worcester, \$211,906.58
	Total, \$840,140.69

Details of the foregoing expenditures follow:—

*Barnstable County.*—Brewster, \$4,267.01; Dennis, \$8,038.55; Eastham, \$4,299.43; Harwich, \$7,960.03; Mashpee, \$2,769.40; Sandwich, \$6,931.18; Truro, \$2,880.77; Wellfleet, \$3,682.19; Yarmouth, \$6,464.41.

*Berkshire County.*—Alford, \$2,165.99; Becket, \$4,338.08; Cheshire, \$4,126.44; Egremont, \$2,325.77; Florida, \$1,811.49; Hancock, \$4,449.85; Hinsdale, \$3,527.96; Lanesborough, \$3,431.22; Monterey, \$4,874.34; Mt. Washington, \$1,692.51; New Ashford, \$984.17; New Marlborough, \$8,285.42; Otis, \$3,843.61; Peru, \$3,184.90; Richmond, \$4,453.95; Sandisfield, \$9,097.18; Savoy, \$6,236.35; Sheffield, \$5,496.11; Tyringham, \$2,700.91; Washington, \$5,162.76; West Stockbridge, \$3,512.44; Windsor, \$5,984.02.

*Bristol County.*—Berkley, \$4,548.59; Freetown, \$5,090.09; Norton, \$6,173.09; Raynham, \$4,765.19; Rehoboth, \$11,696.37; Swansea, \$5,414.99.

*Dukes County.*—Chilmark, \$1,507.53.

*Essex County.*—Boxford, \$5,631.59; Georgetown, \$3,682.19; Groveland, \$3,248.99; Merrimac, \$3,248.99; Middleton, \$3,140.69; Newbury, \$3,898.79; Rowley, \$3,248.99; Topsfield, \$4,115.39; West Newbury, \$4,007.09.

*Franklin County.*—Ashfield, \$7,987.11; Bernardston, \$4,494.44; Buckland, \$4,981.74; Charlemont, \$4,927.64; Colrain, \$9,549.76; Conway, \$8,581.87; Gill, \$3,898.79; Hawley, \$5,306.69; Heath, \$5,847.60; Leverett, \$4,115.39; Leyden, \$4,466.41; Monroe, \$1,949.40; New Salem, \$6,958.13; Northfield, \$7,364.38; Rowe, \$4,169.54; Shelburne, \$5,225.46; Shutesbury, \$4,413.21; Sunderland, \$3,465.59; Warwick, \$5,956.42; Wendell, \$5,090.09; Whately, \$4,575.66.

*Hampden County.*—Blandford, \$6,945.59; Chester, \$4,174.44; Granville, \$7,878.81; Hampden, \$3,790.49; Holland, \$3,234.86; Montgomery, \$2,918.19; Southwick, \$5,414.99; Tolland, \$3,120.55; Wales, \$2,736.83.

*Hampshire County.*—Belchertown, \$12,616.92; Chesterfield, \$6,281.38; Cummington, \$5,279.61; Enfield, \$4,007.09; Goshen, \$2,978.24; Granby, \$4,981.79; Greenwich, \$4,385.20; Huntington, \$3,443.50; Middlefield, \$3,544.69; Pelham, \$4,331.99; Plainfield, \$5,523.29; Prescott, \$4,249.28; Southampton, \$6,199.25; Westhampton, \$5,198.39; Williamsburg, \$4,954.71; Worthington, \$6,710.99.

*Middlesex County.*—Acton, \$6,497.98; Ashby, \$6,389.68; Ashland, \$4,331.99; Boxborough, \$2,707.49; Burlington, \$3,573.89; Carlisle, \$4,873.49; Dunstable, \$4,440.29; Holliston, \$5,631.59; Hopkinton, \$7,364.39; Lincoln, \$4,548.59; Littleton, \$4,656.89; North Reading, \$3,248.99; Sherborn, \$4,765.19; Shirley, \$5,198.39; Stow, \$5,090.09; Sudbury, \$6,822.88; Tewksbury, \$6,173.08; Townsend, \$7,797.58; Tyngsborough, \$4,656.89; Wilmington, \$4,873.49.

*Norfolk County.*—Bellingham, \$4,548.59; Medfield, \$4,331.99; Medway, \$4,765.19; Millis, \$4,115.39; Norfolk, \$4,440.29; Plainville, \$3,682.19; Wrentham, \$4,981.79.

*Plymouth County.*—Carver, \$6,749.33; Halifax, \$3,465.59; Hanson, \$3,999.03;

Lakeville, \$4,873.49; Norwell, \$6,029.59; Pembroke, \$5,075.64; Plympton, \$3,521.80; Rochester, \$5,306.69; West Bridgewater, \$4,081.28.

*Worcester County.* — Ashburnham, \$8,501.44; Berlin, \$4,862.78; Bolton, \$5,739.89; Boylston, \$4,331.99; Brimfield, \$6,745.36; Brookfield, \$4,218.76; Charlton, \$11,240.71; Dana, \$4,657.71; Douglas, \$7,580.98; East Brookfield, \$2,057.69; Harvard, \$6,064.79; Holden, \$7,808.15; Hubbardston, \$8,123.44; Lancaster, \$6,389.68; Lunenburg, \$7,039.48; Mendon, \$3,898.79; New Braintree, \$5,332.72; North Brookfield, \$6,651.60; Northborough, \$5,090.09; Oakham, \$4,873.49; Paxton, \$3,092.37; Petersham, \$7,692.34; Phillipston, \$4,440.29; Princeton, \$7,797.58; Royalston, \$7,334.46; Rutland, \$6,458.35; Southborough, \$5,198.39; Sterling, \$7,797.58; Sturbridge, \$8,166.76; Sutton, \$9,097.18; Upton, \$6,392.92; West Boylston, \$3,633.45; West Brookfield, \$5,405.03; Westminster, \$8,190.34.

## REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1927-1928.

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, and by chapters 180 and 342, Acts of 1925, regulations were adopted on Jan. 31, 1928, and public notice thereof given, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. The regulations were in effect in the following counties during the periods stated: —

Barnstable and Plymouth Counties, Feb. 20 to Apr. 3, 1928.

Bristol, Norfolk and Hampden Counties, Feb. 20 to Apr. 10, 1928.

Franklin County, Feb. 27 to Apr. 30, 1928.

Hampshire County, Feb. 27 to Apr. 10, 1928.

Essex County, Mar. 1 to Apr. 10, 1928.

Middlesex and Worcester Counties, Mar. 1 to Apr. 18, 1928.

Berkshire County, Mar. 5 to Apr. 30, 1928.

## ROADSIDE MAINTENANCE AND DEVELOPMENT.

The care of the roadsides has come to be an important part of the State highway maintenance. The control of everything within the highway layout, including structures and all trees and brush, and the location of all telegraph, telephone and power lines and all tree trimming incidental thereto is a function of this Department.

The Department maintains as part of its organization a group of trained men to supervise all work done on trees by public service corporations, to remove or trim trees, brush, etc., in order to make the highways safe and to improve the vision and to add to the enjoyment of the highways by opening up vistas and other clearings at points of advantage. In connection with all of this work, careful consideration is given to the preservation and appearance of all growth within the layout. As a part of this movement to improve the appearance of the roadside, two nurseries are operated where trees and brush suitable for roadside use are raised and kept in stock.

## UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS.

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth has been placed in the Department of Public Works by chapter 357, Acts of 1928.

The purpose of this act is to create throughout the cities and towns basic uniformity in signs, signals and devices for the control of traffic on ways within the Commonwealth and for the safe and expeditious movement of through traffic upon the State highway routes by the prevention of unnecessary obstructions of such routes because of improperly placed and operated control devices, and by protecting such through routes from dangerous interference from cross traffic by the application, where necessary, of the "through traffic-stop" regulation.

In order to carry out the provisions of this act, the Department has organized a traffic engineering section, which has been assembling information relative to the traffic signs, signals and devices now in use in the various cities and towns, as a basis for the determination of a standard State code.



Under this act the Department has issued a number of permits for new installations of stop-and-go signals, beacons and signs, and also several permits for the establishment of through ways and for traffic regulations.

In all these matters the Department has had the helpful co-operation of the authorized public officials of the cities and towns.

In relation to the establishment of through ways or streets, the Department has issued the first of a series of bulletins, Bulletin No. 1, setting forth the purposes of such control, the conditions under which such ways may be successful and the requirements of the Department in relation thereto.

The Department now has under consideration further problems relating to the establishment of through ways on State highways and the preparation of a uniform municipal code as well as the approval or disapproval of existing signs, signals and through streets.

### PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES.

In accordance with sections 48A and 48B of chapter 280, Acts of 1925, which amends chapter 159, General Laws, 54 permits were granted during the year.

### THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW.

(Sections 29-33, Chapter 93, General Laws, as amended.)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.* — Licenses were granted to 35 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,022 applications received for permits for the erection of advertising signs, 566 permits have been granted; and 18 permits were granted on applications filed previous to 1928. Thirty-six applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 11 applications for permits were cancelled.

Of 2,210 renewal applications sent to those whose permits were to expire June 30, 1928, 2,047 were returned to the Department requesting renewal; and 156 requested that permits be cancelled. The number of renewal applications approved, to be in force until June 30, 1929, was 2,145. The total number of permits in force Nov. 30, 1928, was 2,450.

*Receipts and Expenditures.* — The total receipts for the year ending Nov. 30, 1928, were \$13,423.22, and the expenditures were \$7,225.19.

*Removal of Signs.* — The regular work in the removal of signs has been carried on during the year, and 38,000 signs have been removed by the Department under authority of section 30-A, chapter 93, General Laws, from locations within the highways and from private property.

*Injunction.* — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.* — Hearings were given to officials of Braintree, Kingston and Saugus, who had objected to the granting of permits for advertising signs in their respective towns.

## SALE OF MAPS.

Under authority of Section 1, Chapter 81, General Laws, as amended by Section 1, Chapter 57, Acts of 1923, 14 copies of the road map of Massachusetts, edition of 1922, and 399 copies of the 1927 edition of the Automobile Route Map of Massachusetts have been sold during the year ending Nov. 30, 1928, for which \$106.75 was received and paid into the treasury of the Commonwealth.



## CONTRACT PRICES DEC. 1, 1927, TO NOV. 30, 1928.

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.				Plain Conc. Masonry (cu. yd.).	BIT. SURFACE.	
		Earth (cu. yd.).	Borrow (cu. yd.).	Ledge (cu. yd.).	Trench (cu. yd.).		Asphalt (gal.).	Tar (gal.).
Abington-Whitman . . .	Interstate Highway Const. Corp.	\$0 85	-	\$3 70	\$1 00	\$17 00	\$0 115	-
Acton . . .	Westcott & Monroe . . .	2 00	-	5 00	-	20 00	-	-
Acushnet . . .	George E. Tripp . . .	0 80	\$0 60	3 00	1 00	15 00	0 13	-
Amesbury . . .	Frank Lanza & Sons . . .	0 80	0 80	3 00	1 00	22 00	0 13	-
Amherst . . .	Warner Bros. . . . .	0 85	-	3 00	1 10	22 50	0 125	-
Amherst-Hadley . . .	The Lane Const. Corp. . . .	0 85	-	0 85	1 25	23 00	0 12	-
Andover . . .	T. J. McCue . . . . .	1 00	0 80	5 00	2 00	16 00	0 12	-
Ashburnham . . .	R. H. Newell Co. . . . .	0 85	0 85	2 50	1 25	25 00	0 13	-
Athol, Phillipston-Templeton . . .	G. Rosse & Son . . . . .	0 80	-	2 60	0 95	22 00	0 125	-
Avon . . .	Otis R. Mann . . . . .	0 90	0 90	5 00	1 25	20 00	0 13	-
Ayer . . .	Greenough Const. Co. . . .	1 00	1 00	1 00	1 00	20 00	0 12	-
Barnstable . . .	Wm. A. Jones . . . . .	0 75	0 75	5 00	0 60	20 00	0 25	-
Barre . . .	H. & J. P. Green Co. . . .	0 75	-	3 00	1 25	23 00	0 13	-
Becket . . .	The Lane Const. Corp. . . .	0 80	1 00	3 50	1 50	25 00	0 13	-
Becket-Middlefield . . .	The Lane Const. Corp. . . .	1 00	1 25	3 50	2 00	25 00	0 13	-
Bedford . . .	The Kelsey Const. Co. . . .	0 75	-	10 00	1 50	-	0 12	-
Bellingham-Franklin . . .	R. H. Newell Co. . . . .	0 75	0 80	2 50	1 00	22 00	-	\$0 13
Bellingham-Franklin . . .	Coleman Bros. Inc. . . . .	0 75	-	4 00	2 00	20 00	0 13	-
Belmont . . .	T. J. McCue . . . . .	0 75	-	2 50	1 00	-	0 10½	-
Berkley-Freetown . . .	Canedy Const. Co. . . . .	0 90	0 70	2 00	1 00	-	-	0 13
Beverly . . .	McCarthy Bros. . . . .	0 80	-	3 00	1 15	12 00	0 12	-
Billerica . . .	A. Pallotto . . . . .	0 60	-	2 00	0 75	20 00	0 125	-
Blackstone . . .	Matthew F. Sullivan . . . .	0 75	-	4 00	1 00	20 00	0 12	-
Blandford . . .	A. G. Bianchi . . . . .	1 35	1 00	3 00	1 50	27 00	-	0 15
Bolton-Lancaster . . .	Lincoln & Belding . . . . .	0 65	0 75	1 00	1 25	28 00	0 12	-
Bourne . . .	A. Carchia & Sons . . . . .	0 80	-	2 00	0 80	15 00	0 13	-
Boxborough . . .	A. M. Custance & Co., Inc. .	1 25	0 95	4 00	1 50	25 00	0 10	-
Boylston . . .	H. & J. P. Green Co. . . .	0 75	1 00	1 00	1 25	22 00	0 13	-
Brewster . . .	Wm. A. Jones . . . . .	0 40	-	3 00	0 50	18 00	0 12	-
Brimfield . . .	Michael Way . . . . .	0 90	0 90	2 50	1 00	22 00	-	-
Brimfield-Monson . . .	Arute Bros. Inc. . . . .	0 75	0 75	2 50	1 25	22 00	0 13	-
Burlington . . .	The Kelsey Const. Co. . . .	0 80	1 20	6 00	2 00	30 00	0 115	-
Canton . . .	J. Susi & Bro. . . . .	0 65	-	5 00	1 25	20 00	0 12	-
Carlisle . . .	A. Pallotto . . . . .	0 70	0 70	4 00	1 00	20 00	0 10	-
Charlton-Oxford . . .	Frank Lanza & Sons . . . .	1 00	0 60	4 00	1 00	22 00	0 13	-
Charlton-Sturbridge . . .	Raymond A. Bergesson . . .	0 65	0 75	2 25	1 20	20 00	-	-
Chesterfield . . .	Warner Bros. & Goodwin, Inc.	1 00	1 00	5 00	-	-	-	-
Chicopee . . .	D. O'Connell's Sons, Inc. . .	1 30	-	3 50	1 50	25 00	0 16	-
Clarksburg, Florida-North Adams . . .	The Lane Const. Corp. . . .	0 75	0 25	2 50	2 00	25 00	0 14	-
Colrain . . .	Perini & Ampollini . . . .	0 90	-	2 50	2 00	40 00	0 14	-
Colrain . . .	Perini & Ampollini . . . .	0 80	-	0 80	1 00	25 00	0 125	-
Conway . . .	R. W. Booker Co. . . . .	-	-	12 00	-	22 00	-	-
Dalton-Pittsfield . . .	Kelleher Corp. . . . .	0 85	-	3 00	1 20	25 00	0 135	-
Danvers . . .	Welch & Moynihan Co. . . .	0 75	-	3 50	1 15	20 00	0 12	-
Dartmouth . . .	Hudson Const. Co. . . . .	0 70	0 80	3 70	1 10	20 00	0 12	-
Dartmouth-Westport . . .	Greany & Sherry, Inc. . . .	0 85	-	5 00	1 00	30 00	0 13	-
Dedham . . .	Simpson Bros. Corp. . . . .	0 78	0 88	4 00	1 50	15 50	0 115	-
Deerfield . . .	The Fitchburg Conc. Const. Co.	0 70	0 70	2 00	1 00	20 00	0 13	-
Dennis . . .	S. W. Lawrence . . . . .	0 75	0 50	3 00	1 00	20 00	0 20	-
Dighton . . .	Z. L. Canedy . . . . .	0 75	1 10	3 00	1 75	12 00	0 13	-
Dighton-Taunton . . .	Chas. E. Horne . . . . .	0 80	-	3 00	1 25	20 00	0 12	-
Dracut . . .	A. Pallotto . . . . .	0 65	0 70	3 50	0 50	3 50	0 14	-
Dudley . . .	G. Rosse & Son . . . . .	0 75	-	2 75	0 95	22 00	0 125	-
Duxbury . . .	F. P. McNeil . . . . .	1 00	1 00	4 50	1 00	22 00	0 15	-
Duxbury-Kingston . . .	A. D. Bridge's Sons, Inc. . .	0 75	0 85	3 00	1 25	25 00	0 20	-
East Bridgewater . . .	Washburn & Sheridan Const. Co.	0 50	0 80	5 00	3 00	25 00	-	0 12
Easthampton-Northampton . . .	D. O'Connell's Sons, Inc. . .	1 00	0 70	5 00	1 00	25 00	0 12½	-
Easthampton . . .	Albert P. Rounds . . . . .	0 60	0 65	15 00	1 25	10 00	0 13	-
Falmouth . . .	M. F. Roach & Sons, Inc. . .	0 53	0 60	0 53	0 80	20 00	0 20	-
Falmouth-Mashpee . . .	S. W. Lawrence . . . . .	0 40	0 40	4 00	0 80	20 00	0 20	-
Florida . . .	The Lane Const. Corp. . . .	1 10	0 75	3 50	2 00	25 00	0 17	-
Framingham . . .	G. Bonazzoli & Sons. . . .	0 69	-	2 50	1 50	-	0 12	-
Freetown . . .	Chas. E. Horne . . . . .	0 90	0 90	2 50	1 00	-	-	0 15
Gardner-Westminster . . .	Interstate Highway Const. Corp.	0 75	-	3 00	1 50	20 00	0 13	-

CONTRACT PRICES DEC. 1, 1927, TO NOV. 30, 1928.

Conc. Surt. (cu. yd.).	Broken Stone (ton).	PIPE CULVERT (lin. ft.).							Guard Rail (lin. ft.).	Stone Filling (cu. yd.).	Catch Basins (each).	Reinf. Conc. Ma- sonry (cu. yd.).	Gravel Borrow (cu. yd.).
		CLAY.			REINF. CONCRETE.								
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.					
-	\$2 80	\$0 55	\$0 75	\$1 00	\$1 05	\$1 35	\$2 00	-	\$0 65	-	\$70 00	\$25 00	\$0 90
-	-	-	-	-	-	-	-	-	1 00	-	-	20 00	1 50
-	3 00	-	-	-	-	-	-	-	0 85	-	-	-	0 70
-	3 20	-	0 70	-	1 25	2 50	-	-	0 60	-	70 00	30 00	0 90
-	2 10	0 50	0 65	1 00	1 10	1 50	2 00	-	0 50	\$2 20	75 00	25 00	1 05
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 05	0 55	0 65	0 85	-	-	2 00	\$3 00	0 55	-	70 00	25 00	1 00
-	2 50	-	-	-	1 75	2 50	-	-	0 60	-	-	25 00	1 00
-	3 20	-	0 85	-	1 50	1 75	2 50	-	0 75	2 40	90 00	30 00	0 95
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3 25	-	-	-	1 20	-	2 00	3 00	0 60	2 35	70 00	25 00	0 95
-	2 70	-	-	-	-	2 00	-	-	0 60	2 10	-	-	0 90
-	3 00	-	0 70	-	1 00	-	-	-	0 50	-	60 00	25 00	1 00
-	-	-	-	-	2 50	-	-	-	0 70	-	85 00	30 00	2 00
-	3 10	0 70	0 70	-	1 50	1 80	-	4 00	-	2 25	80 00	28 00	0 85
-	3 25	-	0 90	-	1 25	-	2 50	3 50	0 55	2 25	100 00	30 00	1 50
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3 15	-	0 90	-	0 90	-	-	-	0 60	2 25	100 00	30 00	1 50
-	2 65	-	0 70	-	-	-	-	-	-	-	75 00	-	1 15
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	0 65	0 70	-	1 25	2 00	2 50	3 00	0 65	2 50	75 00	28 00	0 85
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 80	0 50	0 60	1 00	1 25	1 75	-	4 00	0 80	-	75 00	21 00	1 00
-	2 40	0 50	0 65	4 00	-	-	-	-	-	-	60 00	-	1 20
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	1 00	-	-	-	2 00	-	0 65	-	65 00	20 00	1 50
-	2 45	0 65	-	-	1 35	-	-	-	0 70	-	70 00	20 00	1 10
-	2 35	0 60	0 70	1 00	1 00	-	-	-	-	-	80 00	-	1 00
-	-	-	0 70	-	1 25	-	-	-	0 25	2 00	75 00	20 00	1 00
-	3 65	-	-	-	-	-	-	-	0 50	2 90	-	30 00	-
-	3 05	-	-	-	-	-	-	-	0 60	2 00	-	-	0 85
-	3 20	0 50	0 60	1 00	-	-	-	3 00	1 00	-	50 00	-	0 80
-	-	-	0 90	-	1 50	-	-	-	0 85	-	-	35 00	1 25
-	3 10	-	-	-	1 50	-	2 50	-	-	2 25	-	25 00	0 90
-	-	-	-	-	-	-	-	-	0 75	-	-	25 00	-
-	-	-	-	-	1 50	-	-	-	-	2 25	-	25 00	0 90
-	3 15	0 65	0 70	1 00	1 50	-	1 25	3 50	0 75	2 30	75 00	27 50	0 75
-	2 20	-	-	-	-	-	-	-	1 00	-	-	-	1 20
-	2 85	0 50	0 65	1 10	1 00	-	2 00	3 00	0 65	2 50	75 00	-	1 00
-	-	-	0 75	-	0 90	-	2 00	-	0 80	-	-	30 00	0 80
-	3 45	-	-	-	1 50	-	2 35	3 75	-	2 15	-	28 00	1 00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	0 50	-	1 00	-	1 85	3 00	0 60	2 25	75 00	27 00	0 90
\$11 25	2 75	0 60	0 75	1 00	-	-	-	3 25	0 60	-	80 00	35 00	1 50
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3 80	-	0 75	-	1 50	-	2 25	3 75	0 60	1 75	90 00	30 00	1 50
-	3 30	0 60	0 70	-	1 50	-	-	-	0 75	-	70 00	-	1 00
-	3 30	0 50	0 60	1 00	1 20	1 50	2 25	3 50	0 75	-	70 00	35 00	0 80
-	-	-	-	-	-	-	-	-	1 00	-	-	-	2 50
-	3 10	-	0 70	1 10	1 10	1 75	-	-	0 55	2 95	70 00	30 00	1 20
-	2 50	0 65	0 70	-	1 25	-	-	-	0 70	-	70 00	-	0 90
-	2 85	0 65	0 65	1 25	-	-	-	4 00	0 70	-	80 00	30 00	0 85
9 00	3 55	0 55	0 65	1 00	1 50	-	-	-	0 70	-	75 00	35 00	1 10
10 00	2 85	0 70	0 80	-	-	-	-	-	0 60	-	70 00	18 00	0 98
-	2 45	-	0 65	-	1 20	1 50	2 10	3 50	0 50	-	70 00	25 00	0 87
-	-	0 75	-	-	1 25	-	-	3 50	0 75	-	75 00	-	-
-	3 00	0 50	0 60	-	1 25	2 00	-	-	0 75	1 75	-	30 00	1 10
-	3 55	0 60	0 70	-	1 25	1 75	2 25	-	0 70	-	70 00	-	0 90
-	2 25	-	-	-	-	-	-	-	0 75	-	-	-	1 00
-	3 15	0 60	0 65	-	1 20	1 70	1 95	-	0 60	2 30	60 00	22 00	0 85
-	3 20	0 70	-	-	1 25	-	-	-	0 70	-	75 00	-	1 25
-	-	0 60	-	-	1 35	2 00	2 50	3 50	0 60	-	90 00	30 00	1 20
-	1 85	-	-	-	1 00	-	-	2 25	0 70	2 00	75 00	-	0 50
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 50	0 55	-	-	1 40	-	-	-	-	-	70 00	25 00	1 65
-	2 55	-	1 50	-	-	-	-	-	0 60	-	-	16 50	1 81
-	-	0 38	0 50	-	1 20	2 25	-	3 25	0 60	-	60 00	-	0 90
-	-	0 45	0 55	-	1 00	-	2 50	-	0 60	-	65 00	36 00	0 90
-	2 90	-	-	-	1 75	-	2 50	3 50	0 60	2 40	-	30 00	3 00
-	2 90	-	1 00	-	1 35	-	-	-	-	-	75 00	-	0 79
-	4 00	-	-	-	1 25	1 50	-	-	-	-	-	-	0 90
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3 20	-	-	-	0 95	-	1 60	2 55	0 65	-	75 00	30 00	0 80



## CONTRACT PRICES DEC. 1, 1927, TO NOV. 30, 1928 — Continued.

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.				Ma- sonry (cu. yd.).	BIT. SUR- FACE.	
		Earth (cu. yd.).	Box (cu. yd.).	Ledge (cu. yd.).	Trench (cu. yd.).		Asphalt (gal.).	Tar (gal.).
Georgetown . . .	James E. Watkins . . .	\$0 70	-	2 50	\$0 90	\$18 00	\$0 12	-
Gloucester . . .	O. Menici . . .	0 90	-	5 00	1 50	20 00	0 135	-
Great Barrington . . .	David W. Dwyer . . .	1 25	1 25	5 00	1 25	20 00	0 20	-
Great Barrington . . .	S. W. Menaguale . . .	1 00	1 00	3 00	1 00	22 50	-	-
Groton . . .	George H. Pierce . . .	1 00	0 30	3 00	1 00	20 00	0 11	-
Groton-Pepperell . . .	Antonio Pallotto . . .	0 65	0 75	4 00	1 00	20 00	0 13	-
Groveland . . .	M. McDonough Co. . .	0 70	-	1 00	1 00	20 00	0 13	-
Groveland . . .	W. F. Duffee & Co. . .	0 80	-	5 00	1 00	18 00	0 12	-
Hadley . . .	Kelleher Corp. . .	0 75	-	3 00	1 10	22 50	0 10	-
Halifax . . .	S. W. Lawrence . . .	0 75	0 75	4 00	0 75	20 00	0 20	-
Hamilton . . .	Welch & Moynihan Co. . .	0 75	-	3 00	1 00	20 00	0 125	-
Hanson . . .	Washburn & Sheridan Const. Co. . .	1 00	1 00	5 00	3 00	25 00	0 20	-
Harwich . . .	Herbert L. Thomas . . .	0 45	0 50	0 50	0 50	18 00	0 15	-
Haverhill . . .	R. G. Watkins & Son. . .	1 00	3 00	3 00	1 00	-	0 13	-
Holden . . .	Guaranty Const. Co. . .	0 75	-	5 00	1 30	25 00	0 125	-
Holden . . .	Reynolds Bros. Inc. . .	0 85	-	5 00	1 25	25 00	0 10	-
Huntington- Russell . . .	Interstate Highway Const. Corp. . .	0 70	0 80	3 00	1 25	18 00	0 12	-
Lakeville . . .	Washburn & Sheridan Const. Co. . .	0 70	-	5 00	3 00	25 00	0 12	-
Leicester, Spencer- West Brookfield . . .	The Lane Const. Corp. . .	1 15	0 90	3 50	1 50	25 00	0 14	-
Lenox . . .	The Lane Const. Corp. . .	1 00	-	3 50	1 50	25 00	0 17	-
Lexington . . .	M. McDonough Co. . .	1 00	-	5 00	1 25	25 00	0 13	-
Littleton . . .	Greenough Const. Co. . .	1 00	0 75	-	-	-	0 30	-
Longmeadow . . .	D. O'Connell's Sons, Inc. . .	0 95	-	4 00	1 30	25 00	0 15	-
Lowell . . .	Greenough Const. Co. . .	1 00	-	5 00	-	-	-	-
Lowell . . .	Indian Head Const. Co. . .	0 80	-	3 00	1 00	25 00	0 135	-
Ludlow . . .	Warner Bros. & Goodwin Inc. . .	0 90	0 90	3 00	1 10	25 00	0 13	-
Lunenburg . . .	Catanese Const. Co. . .	0 65	-	3 00	1 00	19 00	0 10	-
Lynnfield . . .	M. McDonough Co. . .	0 50	-	3 00	1 25	25 00	0 13	-
Lynn-Salem . . .	Nicola Tanzello . . .	0 80	0 85	2 75	1 25	12 00	0 115	-
Malden-Medford . . .	James H. Fannon . . .	0 60	-	3 00	1 50	-	0 12	-
Malden, Melrose, Saugus-Lynnfield . . .	M. McDonough Co. . .	0 80	1 25	4 00	1 50	20 00	0 12	-
Mansfield-Norton . . .	Morrell & Munroe . . .	0 70	0 65	4 00	0 75	16 00	0 145	-
Marlborough . . .	B. Perini & Sons, Inc. . .	0 70	0 75	4 00	1 00	21 00	0 12	-
Mattapoisett . . .	Washburn & Sheridan Const. Co. . .	0 60	-	5 00	3 00	25 00	0 13	-
Maynard . . .	Louis Martiniello & Son. . .	4 00	-	15 00	1 25	-	1 00	-
Medfield . . .	Middlesex Const. Co. . .	0 75	-	4 00	1 25	22 50	0 125	-
Medway-Millis . . .	R. H. Newell Co. . .	0 70	0 70	2 00	1 25	22 00	0 12	-
Methuen . . .	Louis C. Cyr . . .	0 80	-	4 00	1 25	20 00	0 115	-
Millis . . .	T. F. Malloy . . .	0 90	0 80	3 00	1 25	20 00	-	\$0 13
Millville . . .	Henry Goulet . . .	1 00	0 50	5 00	1 00	20 00	0 12	-
Milton . . .	T. J. McCue . . .	0 80	-	4 00	1 20	18 00	0 11	-
Nantucket . . .	M. F. Roach & Sons, Inc. . .	0 90	0 90	5 00	-	-	0 30	-
Needham . . .	Edward M. Miskell . . .	0 80	0 75	3 00	1 50	20 00	0 11	-
Needham . . .	State Const. Co., Inc. . .	0 80	-	3 00	1 25	18 00	0 125	-
Newbury . . .	Jas. E. Watkins . . .	0 70	-	4 00	0 90	18 00	-	0 11
Newburyport . . .	Welch & Moynihan Co. . .	0 70	-	3 50	1 00	20 00	0 125	-
Norfolk . . .	Phipps Bros. Co. . .	0 70	-	3 00	1 50	25 00	-	0 14
North Adams . . .	P. J. Kennedy & Co., Inc. . .	2 00	-	12 00	-	-	-	-
Norwood . . .	Guaranty Const. Co. . .	0 90	-	5 00	2 00	-	0 15	-
Oxford . . .	Frank Lanza & Sons . . .	0 70	0 75	3 00	1 25	23 00	0 14	-
Palmer . . .	Kelleher Corp. . .	1 20	-	1 20	1 25	25 00	0 11	-
Palmer . . .	New Haven Road Const. Co. Inc. . .	0 48	-	3 00	1 25	23 00	0 13	-
Peabody . . .	T. F. McCarthy . . .	1 10	0 85	3 25	1 25	16 00	-	-
Pembroke . . .	Otis R. Mann . . .	0 75	0 90	4 00	1 00	20 00	0 13	-
Petersham . . .	C. P. Kibbe, Inc. . .	0 90	0 80	4 00	1 00	24 00	0 03	-
Phillipston . . .	Perini & Ampollini . . .	0 75	0 80	2 50	1 50	20 00	0 11	-
Plainfield . . .	E. B. & G. R. Vaughan . . .	0 80	0 70	3 25	1 00	-	-	-
Plympton . . .	Washburn & Sheridan Const. Co. . .	0 80	0 70	5 00	1 50	25 00	0 20	-
Princeton-Sterling . . .	T. J. Hynes & Son . . .	0 70	0 90	2 00	-	-	0 12	-
Princeton- Westminster . . .	Waterbury Rd. Const. Co. Inc. . .	0 75	-	0 75	1 00	18 00	0 10	-
Randolph . . .	Powers Bros. . .	0 80	-	3 00	-	-	-	0 13
Randolph . . .	Powers Bros. . .	0 75	-	3 00	1 25	20 00	0 13	-
Reading . . .	James H. Goss . . .	0 70	-	3 25	1 00	-	0 11	-
Rehoboth . . .	Geo. L. McNeil . . .	0 80	1 00	2 60	1 25	-	-	0 15
Richmond and West Stockbridge . . .	The Lane Const. Corp . . .	0 80	0 80	3 00	1 50	25 00	0 13	-
Rochester . . .	Reynolds Bros. Inc. . .	0 70	0 70	5 00	1 00	20 00	-	0 14
Rockland . . .	Bradford Weston . . .	0 90	1 10	4 00	1 00	20 00	0 13	-
Royalston . . .	Warner Bros. & Goodwin, Inc. . .	0 80	0 80	3 00	1 25	25 00	0 12	-
Salem . . .	Octavius Menici . . .	0 70	-	3 50	1 25	30 00	0 115	-
Salisbury . . .	Interstate Highway Const. Corp. . .	0 75	-	3 00	1 25	20 00	0 13	-
Sandisfield-Tolland . . .	New Haven Rd. Const. Co. Inc. . .	0 70	0 75	2 75	1 25	22 00	-	0 14
Saugus . . .	T. F. McCarthy . . .	0 75	-	3 50	1 20	18 00	0 11	-

CONTRACT PRICES DEC. 1, 1927, TO NOV. 30, 1928 — *Continued.*

Conc. Surf. (cu. yd.)	Broken Stone (ton).	PIPE CULVERT (lin. ft.).								Guard Rai (lin. ft.).	Stone Filling (cu. yd.).	Catch Basins (each).	Reinf. Conc. Masonry (cu. yd.).	Gravel Borrow (cu. yd.).
		CLAY.			REINF. CONCRETE.									
		10 In.	12 In.	15 In.	12 In.	15 In.	1 In.	24 In.						
-	2 95	-	-	-	\$1 50	\$1 90	\$2 75	-	-	-	\$60 00	-	\$1 25	
-	2 50	0 75	50 85	-	1 25	2 00	-	-	0 70	-	70 00	\$20 00	1 65	
-	4 25	-	-	-	-	-	-	-	0 85	-	-	25 00	1 50	
-	-	-	-	-	1 75	-	3 00	-	0 65	-	-	30 00	1 30	
-	-	-	0 50	-	1 25	1 50	3 00	-	-	-	70 00	35 00	0 80	
-	2 80	0 75	0 75	-	1 25	1 50	2 50	-	0 80	-	100 00	30 00	0 90	
-	2 80	0 50	0 60	-	0 80	1 50	-	-	-	-	60 00	30 00	1 00	
\$15 00	3 00	0 60	0 75	-	1 35	-	-	-	-	-	70 00	-	0 80	
-	-	0 60	0 70	\$1 10	1 25	2 00	2 50	-	0 55	2 00	75 00	30 00	1 10	
-	-	-	-	-	-	-	-	-	0 70	-	75 00	-	0 75	
-	2 50	-	0 75	-	1 25	-	-	-	0 75	-	70 00	-	1 10	
-	-	-	-	-	1 25	-	2 00	-	1 00	3 00	75 00	30 00	1 00	
-	-	0 70	-	-	-	-	-	-	0 70	-	-	25 00	-	
-	3 00	0 90	-	-	-	-	-	-	0 70	-	75 00	20 00	1 10	
-	3 20	-	0 75	-	1 25	-	2 50	\$3 50	-	2 40	75 00	35 00	0 95	
-	-	-	0 60	-	1 25	-	-	-	-	2 25	85 00	30 00	1 00	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	2 80	-	0 65	-	1 15	-	2 00	3 25	0 60	2 30	70 00	28 00	0 90	
-	3 40	-	-	-	-	-	-	-	0 70	-	-	-	0 80	
11 75	3 50	0 75	0 80	-	1 25	1 70	2 25	-	-	-	75 00	30 00	1 10	
10 50	3 50	-	0 85	1 00	1 25	-	2 00	-	-	-	85 00	-	1 60	
-	2 30	-	0 75	1 25	1 25	-	-	-	1 00	-	70 00	30 00	1 25	
11 00	-	-	-	-	-	-	-	-	0 50	-	-	-	-	
11 25	2 85	0 60	0 75	-	-	-	-	-	-	-	70 00	30 00	1 80	
10 00	-	-	-	-	-	-	-	-	-	-	-	-	1 00	
-	2 35	-	0 70	-	1 00	-	-	-	-	-	75 00	-	0 90	
-	3 05	-	-	-	-	-	-	-	0 60	2 25	-	25 00	1 00	
-	-	-	0 65	-	1 25	-	2 25	3 50	2 10	-	-	27 00	0 80	
-	2 25	0 65	-	-	-	1 50	-	-	0 70	3 00	60 00	30 00	1 00	
-	2 00	0 50	-	-	1 20	-	-	6 00	0 70	-	70 00	22 00	1 00	
10 00	2 25	-	-	-	1 25	-	-	-	-	-	80 00	-	1 15	
-	2 25	0 50	0 50	1 00	1 00	-	-	-	0 70	-	70 00	35 00	1 25	
-	3 25	0 70	-	-	1 75	2 00	-	-	0 60	-	70 00	21 00	0 90	
10 00	3 00	0 60	0 65	-	1 15	1 50	1 90	-	0 55	-	70 00	23 00	0 85	
-	3 25	-	-	-	-	-	-	3 00	-	-	-	30 00	0 90	
-	-	-	-	-	3 00	3 50	4 00	-	-	-	75 00	32 00	1 65	
-	2 95	-	-	-	1 25	1 60	2 00	-	0 70	3 00	-	38 00	1 10	
-	2 90	-	0 80	-	1 50	2 00	2 50	4 00	0 65	-	75 00	30 00	0 70	
-	2 65	0 60	-	-	1 20	-	2 25	2 85	0 85	-	90 00	25 00	0 95	
-	-	0 50	-	-	-	1 75	2 00	-	0 80	2 50	60 00	30 00	1 10	
-	-	-	-	-	-	-	-	-	0 50	2 25	-	25 00	1 25	
-	2 50	0 48	0 55	0 70	-	-	4 00	-	-	-	70 00	-	1 17	
-	-	-	-	-	-	-	-	-	0 75	-	-	-	-	
-	2 80	-	-	-	1 50	-	2 50	5 00	0 60	-	75 00	25 00	0 90	
-	3 00	0 40	0 50	-	2 00	3 00	-	-	0 60	-	70 00	-	1 00	
-	3 15	0 60	0 75	-	1 50	-	-	-	0 60	-	60 00	18 00	1 00	
-	2 75	0 60	-	-	1 15	-	-	-	1 00	-	70 00	22 00	0 85	
-	-	0 60	0 70	-	-	1 75	2 25	-	0 70	-	80 00	30 00	0 85	
15 00	-	-	-	-	-	-	-	-	1 00	-	-	-	1 50	
11 00	4 00	0 65	0 75	-	1 50	-	-	-	-	-	80 00	-	1 15	
-	3 25	-	0 70	-	1 50	-	2 40	-	-	2 15	-	35 00	1 25	
-	-	-	0 70	-	1 50	-	2 50	-	0 60	2 00	75 00	30 00	1 15	
11 00	3 00	0 55	0 65	0 90	-	-	2 00	-	-	-	80 00	30 00	0 75	
-	-	0 65	-	-	-	-	-	-	-	-	65 00	-	0 85	
-	3 35	-	-	-	1 75	2 00	-	-	0 60	-	65 00	-	0 90	
-	-	-	-	-	-	-	2 40	-	0 60	2 40	-	30 00	1 30	
-	-	-	-	-	1 50	-	2 50	-	-	2 25	-	30 00	1 00	
-	-	-	-	-	-	-	-	-	0 50	1 25	-	-	-	
-	-	-	-	-	-	-	-	-	0 75	3 00	75 00	-	0 70	
-	-	-	-	-	-	-	-	-	-	2 00	-	26 50	0 90	
-	-	-	0 60	0 90	1 00	-	2 00	3 00	-	2 25	80 00	25 00	0 95	
-	-	-	-	-	-	-	-	-	-	2 00	-	-	1 00	
-	2 65	0 45	-	-	1 00	-	2 00	-	-	2 00	80 00	-	1 00	
-	2 75	-	-	-	1 35	-	-	-	0 55	-	60 00	-	1 15	
-	2 90	1 25	-	-	-	-	3 50	-	0 80	-	85 00	-	1 10	
-	3 00	0 55	0 65	-	1 25	-	1 75	3 00	0 60	1 60	75 00	25 00	1 00	
-	-	-	-	-	-	-	-	-	0 60	-	75 00	25 00	0 90	
-	2 70	0 70	0 85	1 05	1 10	2 00	2 10	-	0 70	-	75 00	-	1 10	
-	-	-	-	-	1 50	-	-	-	-	2 00	-	25 00	1 25	
-	2 20	0 60	-	-	-	-	-	-	0 70	-	75 00	-	1 05	
-	3 20	0 45	0 55	0 80	0 95	1 35	-	-	0 60	-	75 00	20 00	0 80	
-	2 50	-	-	-	1 50	-	2 50	3 50	0 60	2 50	-	28 00	-	
-	2 15	0 60	-	-	1 25	-	2 25	-	0 70	-	70 00	-	1 00	



CONTRACT PRICES DEC. 1, 1927, TO NOV. 30, 1928 — *Concluded.*

TOWN OR CITY.	CONTRACTOR.	EXCAVATION.				Plain Conc. Masonry (cu. yd.).	BIT. SURFACE.	
		Earth (cu. yd.).	Borrow (cu. yd.).	Ledge (cu. yd.).	Trench (cu. yd.).		Asphalt (gal.).	Tar (gal.).
Savoy . . .	Kelleher Corp. . . . .	\$1 20	-	\$2 50	\$1 50	-	-	-
Sharon . . .	Iafolla & Shields Const. Co. . .	0 60	-	4 00	0 90	\$18 00	-	\$0 15
Southborough . . .	H. & J. P. Green Co. . . . .	0 75	-	2 00	1 25	22 00	\$0 135	-
Spencer . . .	J. J. McHugh . . . . .	0 70	-	1 00	1 25	20 00	0 14	-
Sutton . . .	Jos. De Vries . . . . .	0 75	\$0 65	2 50	1 00	18 00	-	-
Sutton . . .	Matthew F. Sullivan . . . . .	-	-	3 00	-	-	-	-
Templeton . . .	A. D. Bridge's Sons, Inc. . . . .	0 70	0 70	3 00	1 25	20 00	0 13	-
Templeton . . .	J. J. McHugh . . . . .	0 70	-	3 00	1 25	25 00	0 14	-
Templeton . . .	C. B. Lindholm . . . . .	-	1 50	5 00	-	-	-	-
Townsend . . .	Guaranty Const. Co. . . . .	0 75	-	2 50	0 75	30 00	0 13	-
Upton . . .	Robert Costa . . . . .	1 50	1 25	10 00	1 25	10 00	0 18	-
Uxbridge . . .	R. H. Newell Co. . . . .	0 85	0 75	3 00	1 00	25 00	0 125	-
Waltham . . .	J. H. Fannon . . . . .	0 80	-	3 00	1 25	25 00	-	-
Warwick . . .	The Fitchburg Conc. Const. Co. . .	1 00	0 80	3 00	1 20	20 00	0 10	-
Watertown . . .	T. J. McCue . . . . .	0 74	-	30 00	-	-	-	-
Watertown . . .	T. J. McCue . . . . .	0 80	-	20 00	1 00	20 00	0 11	-
Wayland . . .	Middlesex Const. Co. . . . .	0 60	-	2 50	1 00	25 00	-	-
West Boylston . . .	Guaranty Const. Co. . . . .	0 85	-	4 00	1 40	25 00	0 13	-
West Boylston . . .	R. H. Newell Co. . . . .	0 80	0 75	2 50	1 00	25 00	0 125	-
Westford . . .	S. Rotondi & Sons . . . . .	0 65	-	3 70	1 50	10 00	0 13	-
West Newbury . . .	Robt. G. Watkins & Son . . . . .	0 90	0 90	2 95	1 00	18 00	0 10	-
Weston . . .	Iafolla & Shields Const. Co. . .	0 45	-	2 50	1 00	20 00	0 12	-
Westwood . . .	T. J. McCue . . . . .	0 65	-	3 50	1 35	20 00	0 125	-
Williamstown . . .	Kelleher Corp. . . . .	1 15	-	3 00	1 25	25 00	0 13	-
Wilmington . . .	G. Rotondi & Son . . . . .	1 00	-	-	-	-	0 12	-
Winchendon . . .	Lawton Const. Co. . . . .	0 70	0 70	2 00	1 25	25 00	0 125	-

CONTRACT PRICES DEC. 1, 1927, TO NOV. 30, 1928 — *Concluded.*

Conc. Surf. (cu. yd.).	Broken Stone (ton).	PIPE CULVERT (lin. ft.).							Guard Rail (lin. ft.).	Stone Filling (cu. yd.).	Catch Basins (each).	Reinf. Conc. Masonry (cu. yd.).	Gravel Borrow (cu. yd.).
		CLAY.			REINF. CONCRETE								
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.					
\$12 00	-	-	\$1 50	-	-	-	-	-	-	\$2 25	-	\$30 00	-
	-	-	-	-	\$1 25	-	-	-	\$0 70	-	-	-	\$0 90
	\$3 20	-	-	-	1 50	-	-	-	-	2 25	-	25 00	0 90
	-	-	-	-	1 50	-	-	-	-	2 00	-	25 00	0 75
	-	-	0 65	-	1 25	-	-	-	-	2 20	-	25 00	0 85
-	-	-	-	-	-	-	-	0 50	-	-	30 00	1 50	
-	3 10	\$0 60	0 75	-	1 35	-	\$2 50	\$3 50	0 60	2 20	\$90 00	28 00	0 85
-	3 45	0 50	0 60	\$0 75	-	-	2 50	4 00	-	2 25	-	-	0 75
-	-	-	-	-	-	-	-	-	1 00	-	-	35 00	2 00
-	2 80	0 50	0 60	1 00	1 25	-	-	-	0 75	-	65 00	35 00	0 80
-	3 00	-	-	-	1 60	-	-	-	0 50	-	-	25 40	1 25
-	3 25	-	-	-	1 25	\$1 75	-	-	0 70	2 40	-	30 00	0 90
9 75	-	-	0 70	-	-	-	-	-	-	-	70 00	-	1 00
-	-	-	-	-	-	-	-	-	0 50	2 50	-	30 00	1 00
9 50	-	-	-	-	-	-	-	-	0 65	-	-	-	0 80
-	-	0 60	-	-	-	-	-	-	-	-	60 00	-	1 20
-	2 85	-	1 00	-	1 25	-	-	3 00	0 60	-	70 00	-	0 95
-	-	-	0 75	-	1 30	-	-	-	-	2 40	80 00	-	1 30
-	3 10	0 70	0 80	-	-	-	2 50	-	-	2 50	80 00	30 00	0 90
-	-	-	0 65	-	1 66	-	2 80	-	0 70	-	65 00	14 00	0 70
-	-	-	-	-	1 25	-	-	2 75	0 70	-	-	-	1 20
-	2 70	-	0 85	-	1 25	-	-	-	-	-	70 00	25 00	0 85
-	3 00	0 60	0 65	-	-	2 00	-	-	0 65	2 00	75 00	-	0 90
-	3 80	0 60	0 65	-	1 25	-	2 25	-	2 25	2 80	75 00	32 50	2 25
-	2 60	-	-	-	-	-	-	-	0 70	-	-	-	0 90
-	3 15	-	0 75	-	1 20	1 75	2 25	3 25	0 60	2 35	80 00	25 00	0 95



REGISTRY OF MOTOR VEHICLES.

The work of the Registry of Motor Vehicles for the year,exceeded that of the previous year, particularly on account of the increase in number of registrations of motor vehicles, which greatly offset the decrease in registrations in 1927. The second year of the operation of the law relating to Compulsory Motor Vehicle Liability Insurance and the revised law relating to aircraft also increased the work of the Registry.

The Registrar of Motor Vehicles has endeavored continuously to secure strict enforcement of the law and has co-operated with various safety organizations throughout the State and continued those activities necessary to safeguard the lives and property of motorists and pedestrians. A few of the outstanding figures for the year are as follows:

Certificates of registration issued (passenger and commercial cars and motor cycles) . . . . .	890,251
Licenses to operate issued . . . . .	870,160
Examinations of applicants for licenses . . . . .	154,594
Cash receipts . . . . .	\$13,420,453.05
Licenses and registrations revoked and suspended . . . . .	40,814
Licenses revoked for driving under influence of liquor . . . . .	5,071
Offenders prosecuted in courts . . . . .	888

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS.

The number of deaths caused by motor vehicles in 1928 was 715, an increase of 22 as compared with the previous year. The number of persons killed and injured in motor vehicle accidents in 1927 and 1928 was as follows: —

Motor Vehicle Accidents to Persons.

	Persons Killed.		Persons Injured	
	1927.	1928.	1927.	1928.
Pedestrians by autos . . . . .	421	432	15,365	17,418
Pedestrians by motor cycles . . . . .	4	3	11	25
Pedestrians near street cars . . . . .	11	12	43	45
Occupants of autos . . . . .	182	202	14,629	23,077
Occupants of autos at railroad crossings . . . . .	19	21	69	76
Occupants of motor cycles . . . . .	32	22	396	423
Bicycle riders . . . . .	8	10	634	691
Occupants of carriages, etc. . . . .	6	5	293	303
Coasters . . . . .	10	8	281	143
Totals . . . . .	693	715	31,721	42,201

	Children Killed.		Children Injured.	
	1927.	1928.	1927.	1928.
Boys . . . . .	153	144	5,979	6,712
Girls . . . . .	66	62	2,622	2,950
Totals . . . . .	219	206	8,601	9,662

Number of Collisions.

	1927.	1928.
Autos v. pedestrians . . . . .	15,312	17,171
Autos v. autos . . . . .	14,337	19,289
Autos v. carriages, etc. . . . .	339	336
Autos v. bicycles . . . . .	634	703
Autos v. trolley cars . . . . .	354	355
Autos v. poles, trees, etc. . . . .	1,231	1,734
Autos v. trains . . . . .	67	68
Autos v. motor cycles . . . . .	379	385
Autos v. sleds . . . . .	178	128
Motor cycles v. pedestrians . . . . .	15	23
Totals . . . . .	32,846	40,192

	1927.	1928.
In the daytime . . . . .	23,216	27,534
After dark . . . . .	9,630	12,658
Totals . . . . .	32,846	40,192

ACCIDENT REPORT LETTERS.

In accordance with the provisions of section 26, chapter 90, General Laws, every operator of a motor vehicle, which is in any manner involved in an accident in which any person is killed or injured, is required to report in writing to the Registrar. The number of these accident reports received in 1928 was 33,228 as compared with 31,872 received in 1927.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS.

YEAR.	Auto- mobiles Regis- tered.	Motor- Cycles Regis- tered.	Total Regis- trations.	Number of Persons Killed.	Ratio num- ber of Reg- istrations per Person Killed.	Number of Persons Injured.	Ratio num- ber of Reg- istrations per Person Injured.	Total Suspensions and Rev- ocations.	For opera- ting under Influence- of Liquor.
1910	31,360	3,358	34,718	77	450	963	36	283	22
1911	38,907	3,658	42,565	110	386	1,248	34	360	14
1912	50,132	5,034	55,166	142	388	1,962	28	546	56
1913	62,660	7,127	69,787	188	371	2,923	23	608	87
1914	77,246	8,161	85,407	229	372	4,010	21	858	131
1915	102,633	9,520	112,153	294	381	6,197	18	1,153	202
1916	136,809	10,713	147,522	315	468	9,131	16	1,396	320
1917	174,274	11,065	185,339	438	423	7,282	25	1,831	485
1918	193,497	12,862	206,359	499	413	8,598	24	2,343	553
1919	247,183	13,698	260,881	582	448	16,287	16	2,156	554
1920	304,631	15,143	319,774	481	664	21,182	15	2,944	888
1921	360,731	12,058	372,790	544	685	11,487	32	4,899	1,508
1922	449,838	11,675	461,513	522	884	15,277	30	8,369	2,460
1923	566,150	11,733	577,883	578	999	16,217	35	11,613	3,333
1924	672,315	10,778	683,093	709	963	19,579	34	14,154	4,395
1925	764,338	10,333	774,671	755	1,026	25,736	30	16,249	4,654
1926	826,224	9,215	835,439	705	1,185	25,351	32	18,705	4,863
1927	819,703	7,245	826,948	693	1,193	31,721	26	31,252	4,983
1928	883,595	6,656	890,251	715	1,245	42,201	21	40,814	5,071

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS.

Investigations and examinations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports: —

Classification of Reports.

	1927.	1928.
Accidents, fatal . . . . .	668	714
Accidents, non-fatal . . . . .	1,686	2,112
Accidents, brief reports . . . . .	1,060	1,305
General reputation . . . . .	2,257	3,288
Miscellaneous . . . . .	5,917	6,193
Totals . . . . .	11,588	13,612
Complaints filed . . . . .	7,133	14,756
Garages inspected . . . . .	6,458	8,207
Headlight and other violations reported . . . . .	91,659	71,174
Prosecutions conducted . . . . .	852	888
Amount of fines . . . . .	\$41,116	\$42,244

ANALYSIS OF COURT ABSTRACTS RECEIVED.

	1927.	1928.
Number of courts forwarding abstracts . . . . .	95	95
Number of abstracts received (convictions) . . . . .	37,919	42,052



*Offences*

(Analysis of guilty cases, not including appeals.)

	1927.	1928.
Overspeeding . . . . .	12,110	11,375
Reckless . . . . .	104	57
Intoxicated . . . . .	3,887	4,232
Using auto without authority . . . . .	730	843
Endangering lives . . . . .	2,152	2,531
Not stopping after causing injury . . . . .	511	774
Without license . . . . .	3,507	4,018
Without registration certificate . . . . .	1,330	1,490
Unregistered vehicle . . . . .	450	479
Improper display or no register number . . . . .	427	391
Refusing to stop on signal . . . . .	522	433
Unlighted lamps . . . . .	1,454	1,495
No signal . . . . .	23	75
Operating within 8 feet of street car . . . . .	351	287
Violation of Metropolitan Park Rules . . . . .	480	239
Operating after suspension or revocation of license . . . . .	457	586
Larceny . . . . .	186	244
Manslaughter . . . . .	2	—
Miscellaneous . . . . .	6,966	2,314
Lenses not approved . . . . .	101	128
No reflector . . . . .	27	1
Racing . . . . .	9	19
Operating after revocation of registration certificate . . . . .	6	11
No rear light . . . . .	394	313
Not displaying lights . . . . .	67	181
Violation spot-light law . . . . .	5	1
Improper lights . . . . .	707	260
Brakes not as required by law . . . . .	317	259
Notice of sale not sent . . . . .	5	—
Violation of Insurance Law . . . . .	348	479
Not slowing down approaching pedestrian . . . . .	77	211
Not slowing down at intersecting way . . . . .	—	6,507
Violation law of road . . . . .	—	1,640
Perjury . . . . .	1	—
Making false statements on license application, falsely impersonating or conspiring to obtain a license . . . . .	144	128
Loaning license to another . . . . .	15	21
Allowing intoxicated person to operate . . . . .	11	3
No windshield cleaner . . . . .	1	—
Attempted larceny . . . . .	33	27

## REVOCATIONS AND SUSPENSIONS.

	1927.	1928.
Licenses suspended . . . . .	7,707	9,562
Licenses revoked . . . . .	3,072	3,995
Rights suspended . . . . .	3,847	4,389
Certificates suspended . . . . .	33	17
Certificates revoked . . . . .	14,382	20,679
Certificates and licenses suspended . . . . .	137	72
Certificates and licenses revoked . . . . .	1,760	1,828
Certificates revoked and rights suspended . . . . .	175	157
Rights in Massachusetts suspended . . . . .	139	115
<b>Totals . . . . .</b>	<b>31,252</b>	<b>40,814</b>

REVOCATIONS AND SUSPENSIONS—*Concluded.*

	1927.	1928.
Resulting from investigations . . . . .	13,057	12,714
Resulting from Court convictions . . . . .	8,623	10,129
Resulting from Police complaints . . . . .	794	1,075
Resulting from Judges' complaints . . . . .	66	21
Resulting from State Police complaints . . . . .	131	81
Resulting from Insurance cancellations . . . . .	8,581	16,794
Totals . . . . .	31,252	40,814

*Character of Offences.*

	1927.	1928.
Reckless and endangering . . . . .	1,547	2,138
Liquor convictions . . . . .	3,943	4,240
Going away after accidents . . . . .	350	479
Without authority . . . . .	427	557
Racing . . . . .	8	5
Improper person . . . . .	5,668	6,184
Improper person, liquor . . . . .	1,040	831
Improper operation . . . . .	4,061	5,764
Two overspeeds . . . . .	383	260
Three overspeeds . . . . .	25	21
Insurance cancellations . . . . .	8,581	16,794
Insurance convictions . . . . .	237	407
Improper equipment, miscellaneous . . . . .	198	147
Improper equipment, lights . . . . .	1,325	1,365
Improper equipment, brakes . . . . .	2,552	682
Deaths (fatal accidents) . . . . .	653	710
Other offences . . . . .	254	230

Totals . . . . .	31,252	40,814
Hearings . . . . .	6,367	6,929

Court recommendations adopted: —

Liquor . . . . .	0	0
Reckless and endangering . . . . .	33	52
Going away after accidents . . . . .	2	3
Without authority . . . . .	0	0

Totals . . . . .	35	55
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Persons whose licenses were suspended or revoked and who had to pass examinations in order to have them returned . . . . .	3,329	3,680
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EXAMINATIONS FOR LICENSES.

Examinations of applicants for licenses to operate motor vehicles were held at 54 points in the State, and the tabulation below gives the classes and results of such examinations: —

	1927.	1928.
Operators passed . . . . .	100,695	106,942
Operators unfit . . . . .	24,524	22,664
Restriction removal, passed . . . . .	16,947	21,642
Restriction removal, unfit . . . . .	1,928	2,621
"Competency" passed . . . . .	661	682
"Competency" unfit . . . . .	38	43
Total examinations . . . . .	144,793	154,594

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE.

The operation of the law relating to compulsory motor vehicle insurance occasioned a considerable amount of work which is outlined by the following: —



	1927.	1928.
Notices of cancellation of insurance policies and intent to revoke registrations:		
(a) For non-payment of premiums . . . . .	—	38,359
(b) For other reasons . . . . .	—	16,109
Total . . . . .	48,099	54,468

The effect of the notices of cancellation and revocation in many cases was to serve as a means of enforcing payments on premiums on insurance policies.

About 16,000 certificates of insurance were received from insurance companies as replacements for insurance certificates of other companies.

#### INSPECTION OF MOTOR VEHICLE EQUIPMENT.

The Registry has continued the important work of making inspections of brakes, headlamps and rear lamps and other equipment on motor vehicles in the endeavor to impress upon owners the necessity of complying with the laws and regulations relative to the condition of such equipment, and to urge careful driving and proper maintenance of such parts of the motor vehicle. It is estimated that about 150,000 complaints have been filed of defective equipment relating chiefly and about equally to defects in lighting and braking mechanism. A smaller number of complaints dealt with mirrors, horns, steering gear, windshield wipers and obscured number plates.

##### *Headlighting.*

Two entirely new headlamps were approved by the Registrar during the year, one a motor cycle headlamp with a focusing adjustment and the other an automobile headlamp with no focusing adjustment. A large number of different new devices and various models of old devices were submitted for consideration and not found acceptable.

Approval of headlamps follows a very careful examination of the design and the construction of the lamp, together with actual road tests to determine the performance of the headlamp under various conditions of service, with more favorable consideration given to suitable lamps with fixed focus devices. In order to secure the best information relative to the performance of headlamps and in order to effect approval national in scope, the headlamp is submitted to each of the member states of the Eastern Conference of Motor Vehicle Administrators for study and report, and if these all favor approval and the lamp is found satisfactory for approval in this State, the Registrar issues a certificate of approval which covers specifically the model submitted and tested and no other. If the manufacturer wishes to have a different size or design or model approved, he makes application for extension of the original certificate of approval. Such extensions of approval are granted without further reference to the Eastern Conference of Motor Vehicle Administrators.

##### *Rear Lamps.*

Nine rear lamps were approved by the Registrar during the year. One of these was a single lamp, six were combined with stop signals only and two were combined with stop signals and backing lights.

#### SAVE-A-LIFE CAMPAIGN.

In the latter part of the year a Save-a-Life campaign was conducted, and as part of this program the co-operation of the public was requested for the purpose of obtaining proper inspection and testing of equipment. About 2,000 inspection stations distributed at convenient points throughout the State were approved for carrying out this work, and cars were voluntarily brought to such stations for free inspection of equipment. These stations reported on the number of inspections and number of cases of adjustment resulting therefrom, as given in the following table:—

P.D. 54	59
Total number cars inspected	425,430
Brakes adjusted	78,986
Brakes relined	18,967
Lights adjusted	172,359
Lights replaced	15,376
Horns adjusted	9,388
Horns replaced	2,021
Steering gear adjusted	8,152
Steering parts repaired	2,639
Mirrors adjusted	3,489
Mirrors replaced	6,200
Windshield wipers adjusted	9,155
Windshield wipers installed	6,384
Registration plates corrected	8,209
Total number cars in satisfactory condition	187,936

#### EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS.

Representatives of the department attended meetings of the Eastern Conference of Motor Vehicle Administrators in January at New York City, in April at Cleveland, Ohio, in July at Baltimore, Maryland, and in October at Richmond, Virginia. The meetings were similar in nature to those previously conducted. The interchange of ideas and the various matters discussed and resolutions adopted were considered to be of great help to the conduct of the work of the Registry.

#### AIRCRAFT.

(Chapter 90, General Laws, as amended by Chapter 534, Acts of 1922, Chapter 189, Acts of 1925, and Chapter 388, Acts of 1928.)

During the year 51 applicants were examined for pilots' licenses and 28 aircraft were inspected as to their fitness for registration. Other work included the investigation of 4 fatal accidents and 100 miscellaneous cases arising from complaints and violations of the laws relative to the operation of aircraft. Ten airplanes were condemned as unfit. Eleven persons were killed and seven injured in various kinds of aircraft accidents.

The following table shows the record of aircraft registrations, licenses issued, suspensions and fees received for the years 1927 and 1928: —

	1927.	1928.
Pilots' licenses issued	36	51
Airplanes registered	16	18
Pilots' license fees received	\$285	\$435
Airplane registration fees received	\$240	\$270
Pilots' licenses suspended or revoked	1	1
Rights to fly suspended or revoked	1	9
Pilots' licenses reinstated	1	0
Names placed on Black List	3	0
Airplane registrations suspended or revoked	0	1
Airplane registrations reinstated	0	0
Court convictions for violation of aircraft law	0	1

#### USED CAR SECTION.

(Motor Vehicle Identification.)

The following is a summary of the work accomplished by the Used Car Section which indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold which bear obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under the incorrect engine and makers' numbers where to locate the correct numbers on the cars.

The work of the Used Car Section is summarized in the following tables: —



	1927.	1928.
<i>Dealers.</i>		
First class dealers reporting to this office . . . . .	1,399	1,338
Second and third class dealers reporting . . . . .	454	458
Totals . . . . .	1,853	1,796

<i>Reports Received.</i>		
Approximate number of dealers' reports received . . . . .		300,000
Approximate number of individual reports received . . . . .		90,000

<i>Motor Vehicles Stolen.</i>		
Number stolen in Boston . . . . .	3,939	4,202
Number stolen in Massachusetts (including Boston) . . . . .	5,695	7,662
Number of stolen cars reported from various sources throughout the country, including Massachusetts . . . . .	16,623	17,907
Number recovered through information furnished by this office . . . . .	378	302

<i>Engine and Serial Numbers.</i>		
Engine numbers assigned to cars . . . . .	57	77
Certificates issued authorizing the replacement of engine numbers . . . . .	1,267	1,402
Certificates issued authorizing the replacement of serial numbers . . . . .	2,021	2,610
Certificates issued authorizing the replacement of both engine and makers' numbers . . . . .	58	89

#### BRANCH OFFICES.

The branch offices of the Registry of Motor Vehicles assist in the distribution of number plates, the issuing of licenses and in furnishing information in regard to the motor vehicle laws. Each office also supervises the work of the examiners, investigators and law enforcement work of the district. The following table gives approximately the numbers of registrations and licenses handled at the central office and at the several branch offices.

#### APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Registrations.	First Licenses.	License Renewals.	Miscellaneous.	Total.
Boston:					
Counter . . . . .	229,500	1,500	123,000	95,000	449,000
Mail . . . . .	128,900	—	410,000	27,000	565,900
Examinations . . . . .	—	69,000	—	26,000	95,000
Pittsfield . . . . .	21,300	2,000	13,000	7,000	43,300
Springfield . . . . .	73,400	5,800	38,000	26,000	143,200
Worcester . . . . .	62,200	5,800	34,000	22,000	124,000
Lawrence . . . . .	28,100	3,500	21,000	10,000	62,600
Lowell . . . . .	20,800	2,500	15,000	7,000	45,300
Fall River . . . . .	20,300	2,000	16,000	7,000	45,300
New Bedford . . . . .	21,200	2,200	18,000	7,000	48,400
Lynn . . . . .	51,200	5,900	29,000	18,000	104,100
Quincy . . . . .	26,300	5,400	17,000	10,000	58,700
Brockton . . . . .	33,500	2,900	22,000	12,000	70,400
Hyannis . . . . .	8,300	1,200	4,000	4,000	17,500
Nantucket . . . . .	1,000	—	—	—	1,000
Oak Bluffs . . . . .	1,500	—	—	—	1,500
Totals . . . . .	727,500	109,700	760,000	*278,000	1,875,200

\*This figure includes approximately 150,000 number plate reissues and 45,000 examinations for licenses, including the number of failures and final successful examinations, as well as cases of re-examinations for return of licenses.

REGISTRATIONS, LICENSES, FEES.

The registrations of motor vehicles and licenses issued in 1928 exceeded the figures for 1927. The passenger car registrations increased in number nearly 9%, while commercial vehicle registrations advanced slightly. The motor cycle registrations continued to decrease. The total number of applications handled increased about 8%, from 1,745,460 in 1927 to 1,876,174 in 1928.

PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES.

	1905.	1910.	1915.	1920.	1925.	1927.	1928.
Passenger cars	4,889	31,360	90,580	251,570	663,858	722,955	784,453
Commercial vehicles	—	—	12,053	52,968	100,480	96,748	99,142
Motor cycles	553	3,358	9,520	15,142	10,333	7,245	6,656
Totals	5,442	34,718	112,153	319,680	774,671	826,948	890,251

ANALYSIS OF RECEIPTS.

The fees received for the year 1928, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

Certificates of registration:			
Passenger cars (including taxicabs)	784,453	\$7,654,817	00
Commercial cars	99,142	3,273,036	50
Busses	1,711	199,999	50
Trailers	547	24,127	00
Motor cycles	6,656	29,564	00
Manufacturers or Dealers	2,370	69,185	00
Additional cars	9,009	54,733	00
Repairers	741	18,437	50
Repairers' additional cars	377	7,510	00
Licenses to operate:			
Original licenses	109,431 at \$2 00	—	218,862 00
Renewal licenses	760,729 at \$2 00	—	1,521,458 00
Examinations	134,538 at \$2 00	\$269,076	00
Re-examinations	21,604 at \$1 00	21,604	00
Total examinations	156,142		290,680 00
Copies of certificates and licenses			
furnished	42,939 at \$1 00	—	42,939 00
Duplicate number plates furnished	11,344 at \$1 00	—	11,344 00
Lens approval applications	14 at \$50 00	—	700 00
Miscellaneous receipts, auto lists, process fees, etc.			5,396 12
Total amount of fees		\$13,422,788	62
Less adjustments, previous years		2,335	57
		\$13,420,453	05
Motor vehicle fees rebated (deducted)		206,212	91
Net fees		\$13,214,240	14
Court fines received by the Treasurer and Receiver General		705,378	10
Total receipts credited Highway Fund account, 1928		\$13,919,618	24

The cost of running the Registry of Motor Vehicles for the year 1928 was \$1,233,-736.39, which was 9.3% of the net fees collected, as compared with 9.2% for the year 1927 and 8.2% for the year 1926. This cost, deducted from the receipts for the year, left the sum of \$12,685,881.85 available for legislative appropriation for highway work.



## ANALYSIS OF EXPENDITURES FOR 1928.

The following table gives an analysis of expenditures for the year by the Registry: —

## Personal services:

Regular payroll . . . . .	\$715,680 74
Overtime . . . . .	14,288 98
1927 Increases paid in 1928 . . . . .	286 51

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\$730,256 23

## Supplies:

Books, maps, etc. . . . .	\$787 34
Typewriter supplies . . . . .	1,544 38
Adding machine repairs and supplies . . . . .	58 46
Other supplies . . . . .	2,099 63
Stationery . . . . .	18,281 29
Typewriter repairs . . . . .	85 13
Other repairs . . . . .	516 82

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23,373 05

## Equipment:

Typewriter machines . . . . .	\$5,612 64
Other machines . . . . .	2,267 32
Adding machines . . . . .	353 29
Additional office equipment . . . . .	176 48
Cash registers . . . . .	9 11
Dictograph system . . . . .	1,244 54
Electric fans . . . . .	126 42
Auto exchange . . . . .	469 00

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10,258 80

## Furniture:

Desks . . . . .	\$2,644 85
Files . . . . .	9,109 53
Chairs . . . . .	752 30
Miscellaneous . . . . .	564 73

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13,071 41

## Travel:

Employees . . . . .	\$31,262 06
Delegates to conventions . . . . .	25 00
Automobiles (owned by employees) . . . . .	106,983 58
Automobile (owned by State) . . . . .	687 36
Other traveling expenses . . . . .	3,616 39

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142,574 39

## Other services and expenses:

Expressage . . . . .	\$2,321 30
Postage . . . . .	70,834 40
Printing . . . . .	7,483 74
Other reports . . . . .	3,289 15
Lithographing . . . . .	3,144 91
Telephone . . . . .	6,275 50
Premium on bonds of employees . . . . .	372 39
Rent . . . . .	24,000 00
Water and Ice . . . . .	1,378 80
Cleaning and janitor services . . . . .	1,312 00
Towels . . . . .	827 90
Soap . . . . .	67 24

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121,307 33

Special services (labor) . . . . . \$1,486 20

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1,486 20

Other expenses as listed below:		
Badges for inspectors . . . . .	\$60 00	
Headlight expenses . . . . .	950 24	
Number plates . . . . .	156,681 50	
Sundries . . . . .	115 21	
Aviation expenses . . . . .	21 72	
Direct Mail lists . . . . .	1,450 00	
Temporary branch during rush . . . . .	250 00	
		<hr/>
		\$159,528 67

Branch Office Expenses.

Equipment:		
Lettering and signs . . . . .	\$138 00	
Office equipment . . . . .	2,474 29	
		<hr/>
		2,612 29
Travel:		
Traveling expenses . . . . .	\$157 06	
Express service to bank . . . . .	330 00	
		<hr/>
		487 06
Other services and expenses:		
Cleaning and janitor services . . . . .	\$2,096 43	
Expressage . . . . .	2,301 58	
Fuel . . . . .	145 80	
Lighting . . . . .	848 61	
Miscellaneous . . . . .	676 01	
Rent . . . . .	15,347 54	
Telephone . . . . .	4,404 67	
Towels . . . . .	245 88	
Water and ice . . . . .	334 05	
Special services (labor) . . . . .	880 39	
		<hr/>
		27,280 96

Publicity for Safety Work.

Engraved cups for prizes . . . . .	\$100 00	
Labels . . . . .	632 89	
Paper . . . . .	144 69	
Personal services . . . . .	607 76	
Postage . . . . .	260 39	
Posters . . . . .	577 33	
Printing . . . . .	179 46	
Sundries . . . . .	185 42	
Travel . . . . .	46 90	
		<hr/>
		2,734 84
		<hr/>
		\$1,234,971 23

Less Publicity Expenditures taken from ordinary revenue, extraordinary expense transfer . . . . .	1,234 84
	<hr/>

Total Net Payments from Highway Fund . . . . . \$1,233,736 39

The following comparative statement for the years 1927 and 1928 shows the increase of work as occasioned by the additional number of certificates of registration and licenses, etc.: —

	1927.	1928.
Passenger car certificates (including taxicabs) . . . . .	722,955	784,453
Highest number plate assigned . . . . .	625,000	650,000
Commercial car certificates . . . . .	96,748	99,142
Highest number plate assigned . . . . .	B99,999	B99,999
Motor cycle certificates . . . . .	7,245	6,656
Highest number plate assigned . . . . .	10,000	9,297



Bus certificates . . . . .	1,404	1,711
Trailer certificates . . . . .	443	547
Manufacturers' or Dealers' certificates . . . . .	2,086	2,370
Additional cars (dealers) . . . . .	8,105	9,009
Repairers' certificates . . . . .	510	741
Additional cars (repairers) . . . . .	286	377
Licenses to operate:		
Original . . . . .	102,285	109,431
Renewal . . . . .	711,809	760,729
Total licenses . . . . .	814,094	870,160
Examinations for licenses . . . . .	123,189	134,538
Re-examinations for licenses . . . . .	21,214	21,604
Total examinations . . . . .	144,403	156,142
Copies of certificates and licenses furnished . . . . .	38,204	42,939
Duplicate number plates issued . . . . .	11,255	11,344
Lens applications . . . . .	7	14
Total number of applications handled . . . . .	1,745,460	1,876,174
Total fees . . . . .	\$12,689,315 47	\$13,422,788 62
Less adjustments previous years . . . . .	—	2,335 57
	<hr/>	<hr/>
Motor vehicle fees rebated (deducted) . . . . .	\$12,689,315 47 177,987 43	\$13,420,453 05 206,212 91
	<hr/>	<hr/>
Net fees . . . . .	\$12,511,328 04	\$13,214,240 14
Court fines received by the Treasurer and Receiver-General . . . . .	625,113 55	705,378 10
	<hr/>	<hr/>
Total receipts credited to Highway Fund . . . . .	\$13,136,441 59	\$13,919,618 24
Personal services . . . . .	658,377 03	730,256 23
Expenses . . . . .	504,537 64	501,980 16
Publicity for safety work . . . . .	—	1,500 00
	<hr/>	<hr/>
Total expenses . . . . .	\$1,162,914 67	\$1,233,736 39

## RELATING TO WATERWAYS AND PUBLIC LANDS.

### BOSTON HARBOR.

#### THE COMMONWEALTH FLATS AT SOUTH BOSTON.

##### *Commonwealth Pier No. 5.*

The work of repairs and maintenance has been continued during the year and plans have been completed for utilizing a portion of the second floor within the center shed for the construction of offices and rooms for the use of a part of the engineering force of the Department.

The contract of Oct. 26, 1927, with Joseph P. O'Hearn for replacing and repairing downspouts in the light wells was completed Feb. 14, 1928, at a cost of \$3,400.19. Wherever replacement was necessary under this contract, 6-inch cast iron soil pipe was substituted for 4-inch copper downspouts.

The building of an additional room, for use by the Registry of Motor Vehicles, under contract of Sept. 15, 1927, with J. Slotnik Company, was completed Dec. 22, 1927, at a cost of \$7,594.11. This room was built in the southerly end of the east shed of the pier, in continuation of rooms on the east side of the head house. The floor of the new room is at the level of the first mezzanine floor.

The work of furnishing and placing new fender logs on the sides and end of the pier, and of changing the location of certain existing fender logs, under contract of Aug. 10, 1927, with W. H. Ellis and Son Company, was completed Dec. 7, 1927, at a cost of \$1,549.00.

The reconstruction of Room No. 11 upon the first floor mezzanine on the east side of the pier and its equipment with toilet facilities, under contract of Sept. 7, 1927, with Joseph P. O'Hearn, was completed Dec. 7, 1927, at a cost of \$3,265.00.

Repairs have been made to the auxiliary salt water fire pumps, the Ogden doors, the passenger gangways, to the roofs, the copper skylights and monitor sash, and to the heating system. Additional steel office partitions have been built and new electrically operated brakes installed on elevator No. 2 of the west shed.

To overcome rain water leaks in the head house a contract was made May 10, 1928, with Maurice M. Devine to rake out the loose or disintegrated mortar from the joints of the cast-concrete masonry work and to repoint the joints. This work was completed July 21, 1928, at a cost of \$3,024.30.

Under contract of July 31, 1928, with George H. Priggen, sheet iron covering for a portion of the steam pipes extending from the heating plant to the Viaduct was installed at a contract price of \$650. This work was completed Sept. 1, 1928, at a cost of \$711.83.

The reconstruction of certain of the exterior plaster walls and the repairing of other walls at the head house were carried out under contract of Aug. 7, 1928, with the Cement Gun Company. This work, consisting chiefly of removing old plaster walls and building in reinforced gunite slabs, was completed Oct. 23, 1928, at a cost of \$10,158.52.

On May 22, 1928, a contract was made with S. W. K. Brooks for furnishing and placing new fender logs, disconnecting certain of the existing fender logs and moving and securing them in other places at the pier. This work was completed June 29, 1928, at a cost of \$1,678.00.

The work of repairs to timber platforms, involving the furnishing, driving, fitting and securing of new foundation piles, the rebolting of split piles, the placing of iron bands around crushed piles, and the furnishing and placing of new fender capping where required, was completed Aug. 8, 1928. This work was done under contract of June 19, 1928, with W. H. Ellis and Son Company at a cost of \$1,115.23.

On Oct. 23, 1928, a contract was made with the George W. Nicoll Co., Inc., for the construction of offices and rooms on the second floor within the center shed of the pier, at the following prices: for furnishing all labor and materials and doing all work necessary for building engineering offices and rooms, the lump sum of \$53,630; for removing broken glass and setting new wire glass in existing Fenestra steel sash, \$1.30 for each light of glass so placed; for reputtying glass, 80 cents for each light. The work is now in progress.

*Rules, Regulations and Charges Governing the use of Commonwealth Pier 5,  
South Boston, and Commonwealth Pier 1, East Boston.*

The wharfage and other charges which had been in effect at Commonwealth piers for a number of years were substantially the same as the charges in effect at the railroad and other privately owned terminals at this Port. The schedule of wharfage charges assessed upon commodities delivered to or from the piers by team, truck or lighter was based upon a classification of commodities, a schedule of which, published by the A. J. Howard Co., of Boston, was voluntarily adopted by these pier owners and by the Commonwealth for its piers. No wharfage charge was levied on any goods delivered to or from these piers by rail.

No dockage charge was in effect against vessels using Commonwealth piers, except in cases of vessels moored to the pier for purposes other than discharging cargo.

In order to make a more equitable distribution of the pier charges, without affecting the total yearly revenue, the Department made a very careful study of the business conducted at Commonwealth piers, and concluded that charges should be levied against both vessel and cargo. Consequently the Department adopted a dockage charge to be levied against the vessels, at the rate of 10 cents per ton of 2,000 pounds upon the total amount of cargo delivered and taken from the piers, and also a uniform wharfage charge, at the rate of 25 cents per ton of 2,000 pounds, to be levied on all cargo delivered to or from the piers, whether by rail, team, truck or lighter, excepting therefrom only such rail freight handled at the pier as was destined to or from points outside of a certain designated zone.



On Feb. 1, 1928, the Department adopted a Tariff containing Rules, Regulations and Charges governing the use of Commonwealth Pier 5, South Boston, and Commonwealth Pier 1, East Boston, which was revised May 22, 1928, and finally put into effect June 1, 1928.

#### *Viaduct.*

The contract of Sept. 28, 1927, with Joseph P. O'Hearn for furnishing and erecting downspouts and drains to care for surface water from the roadway of the viaduct connecting Summer Street with the second floor of Commonwealth Pier No. 5, was completed Jan. 20, 1928, at a cost of \$3,484.40. This work comprised the construction of eleven downspouts of 6-inch cast iron pipe connecting the scuppers in the roadway with the 10-inch underground drain extending under the center of the viaduct to an outlet in the east dock of Commonwealth Pier No. 5. One downspout was placed at the Summer Street abutment of the viaduct. The other ten downspouts were built to prevent the discharge of rain water upon the floors of the garage, at the southerly end of the viaduct, and of the storage shed near Northern Avenue. Except in these enclosures surface water from the viaduct scuppers continues to discharge upon the ground.

By arrangement with the Boston Elevated Railway Company, the branch-off tracks at the connection of their tracks in Summer Street with tracks of the Commonwealth on the viaduct, have been removed.

#### *Development of Land South of Summer Street.*

The two Storehouses on D and E Streets in South Boston, formerly known as the Army Stores, have been occupied during the year. The seven sections of Storehouse No. 1 are in use by the Wiggin Terminals, Inc., and a part of Storehouse No. 2 is in use by the Department. Until November sections H, I, and K in Storehouse No. 2, were occupied by the U. S. Postoffice Department, but these have now been vacated.

Miscellaneous repairs have been made to the buildings this year, chiefly to the roofs and loading platforms. New waterproofing has been placed upon parts of the roofs, new glass in some of the skylights, and sashes have been reputtied. Sections of the wooden platforms have been repaired. Certain hydrants in E Street have been protected by the erection of sections of steel rails. Repairs have been made also to the fire sprinkler system.

On Oct. 9, 1928, a deed of a parcel of land containing 19,840 square feet on Fargo and Bullock Streets was given by the Commonwealth to the Quincy Market Cold Storage and Warehouse Company in accordance with the terms of an agreement of Jan. 5, 1922.

On Oct. 23, 1928, a deed of a parcel of land containing 21,775.05 square feet on Fargo and Butler Streets was given by the Commonwealth to the Fargo Real Estate Trust in accordance with the terms of an agreement of Oct. 15, 1919.

On Nov. 9, 1928, a deed of a parcel of land containing 13,419.66 square feet on D and Fargo Streets was given by the Commonwealth to Joseph Burnett Company in accordance with the terms of an agreement of Oct. 15, 1919, and a supplementary agreement of Nov. 23, 1923.

The unaccepted part of E Street between Claflin and Fargo Streets, for an approximate length of 890 feet, has been resurfaced and oiled for a width of about 35 feet. Certain uneven sections of the granite paving at the junction of E and Fargo Streets have been repaved.

Paving blocks in portions of Harbor Street near its connection with Summer Street have been relaid this year and brought to grade.

During the year the city of Boston built a U shaped sewer in D Street from West First Street to Cypher Street. This part of D Street is not surfaced as yet, but the city has dumped second-hand paving blocks on adjacent land of the Commonwealth for use later in paving the street.

Work has been carried on this year in maintaining the industrial tracks of the Commonwealth and in replacing old ties with new creosoted ties.

#### *Commonwealth Pier No. 6.*

The lease of Sept. 24, 1910, by the Commonwealth to the Boston Fish Market Corporation of certain parcels of land and flats with the pier, now known as the

Fish Pier, erected thereon at South Boston, was given for fifteen years beginning Oct. 1, 1913, and provided for a renewal in the following terms:

"and with the right in the lessee to extend this lease for a further period of fifteen years from October 1, 1928, on the same terms and conditions, except that the rent for said additional term of fifteen years shall be at the rate of forty-five thousand dollars (\$45,000) yearly, payable in equal quarterly payments, the lessee to give notice in writing to the Lessor of its intention to exercise its right of such extension on or before October 1, 1927."

The notice in writing required by the provision in the lease was given by the Boston Fish Market Corporation in a letter dated Apr. 14, 1914, to the Directors of the Port of Boston. By the exercise of the option the lease has by its terms been extended for fifteen years at the rental stated.

#### *Railroad Yards of the Commonwealth.*

Under a contract of Mar. 16, 1928, the Commonwealth granted to the New York, New Haven and Hartford Railroad Company for a term ending Oct. 31, 1936, the use of the surplus capacity of the Commonwealth Railroad Yard upon the payment of \$14,000 per year. This Yard had been used previously by the Railroad Company under the terms of a lease given Nov. 15, 1916. The present document provides that the use of this yard by the railroad

"shall in all cases be subordinate to the use of said railroad yard in connection with said Commonwealth Pier 5 and other properties of the Commonwealth north of Summer Street in South Boston and subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use."

The Commonwealth on Mar. 16, 1928, made an agreement with the New York, New Haven and Hartford Railroad Company, for the use of the surplus capacity of the railroad yard built by the Federal Government and released to the Commonwealth by the Secretary of War on May 14, 1926, and two tracks northerly of and connecting with the tracks of the Commonwealth Railroad Yard. The terms of this agreement require the payment of \$39,000 per year for a term of ten years, ending December 31, 1936, and provide that:

"The use of said Federal railroad yard and of said two tracks which said Contractor may make hereunder shall in all cases be subordinate to the use of said Federal railroad yard and tracks, which the Commonwealth may at any time have occasion to make and shall be subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use; provided that the Contractor shall maintain and at all reasonable times make available for service two tracks lying within and through said Federal Railroad yard for use of delivery of cars to and from the United States Army Base, in accordance with the terms of an agreement between said Commonwealth and the United States of America dated May 14, 1926, the conditions of which as applied to said two tracks are hereby referred to and made a part of this agreement during the continuance thereof."

#### THE COMMONWEALTH FLATS AT EAST BOSTON.

##### *Aircraft Landing Field.*

During the early part of the year work at the aircraft landing field chiefly for the extension of landing areas, was continued under the appropriation of \$10,000 by the City of Boston made available by the provisions of Chapter 385 of the Acts of 1926.

The lease to the War Department under date of June 30, 1922, was renewed to June 30, 1929, in accordance with the terms of a supplementary agreement made Dec. 27, 1926, extending the renewal option to June 30, 1937, by yearly renewals.

The area containing approximately 1,479,000 square feet, adjacent to and easterly of the landing field, remains under lease of June 16, 1924, to the U. S. Navy De-



partment. This lease gives to the Lessor the option of extending the period of occupancy by annual renewals to June 30, 1932.

In July, under the provisions of Chapter 64 of the Resolves of 1928, a lease to the city of Boston was authorized in the following terms:

"That the department of public works, subject to such terms, conditions and restrictions as the governor and council may approve, is hereby authorized to lease to the city of Boston for airport purposes, for a term not exceeding twenty years, land of the commonwealth in the control of said department in that part of said city called East Boston; provided that said lease shall reserve to the commonwealth such use of said land for military purposes as it may require. Said department is hereby authorized to include in said lease a provision binding the commonwealth, at the end of the term thereof, to reimburse said city for expenditures made by it for filling and grading said land and also to pay such sum as shall represent the fair value, if any, to the commonwealth, for the then intended use of such runways, buildings and other structures as shall have been built on said land by and at the expense of said city."

In accordance with these provisions a lease was executed under date of August 10, 1928, of a parcel of land of the Commonwealth at East Boston east of Jeffries Point and westerly of the easterly side line of the north and south runway of the present aircraft landing field, for a term of twenty years ending Aug. 9, 1948. Rental for the first period of ten years is to be one dollar a year, for the second period of ten years the rental is to be determined by a special commission of three members, one appointed by the Governor of the Commonwealth, one by the Mayor of Boston and one by the Chief Justice of the Massachusetts Supreme Judicial Court.

#### *Dredging and Filling in East Boston.*

No contract for dredging and filling has been in force at East Boston since the completion on Dec. 24, 1923, of that with the Atlantic, Gulf and Pacific Company. Between that date and Nov. 30, 1928, approximately 1,500,000 cubic yards of material dredged from various locations in the harbor by dredging companies employed chiefly upon private work have been deposited in the receiving basin. During the year ending Nov. 30, 1928, about 212,000 cubic yards were deposited upon the flats northerly of Governor's Island.

The Commonwealth has reclaimed at East Boston about 150 acres of land, a part of which is included in the areas leased to the Federal Government for the aircraft landing field.

#### *Commonwealth Pier No. 1, East Boston.*

The contract of Oct. 26, 1927, with W. A. Norton Company was completed Dec. 20, 1927, at a cost of \$2,498.73. This work included the renewal of portions of the deck planking on the outside platforms of the pier, the repair of door guides on both sides of the shed and the installing of five new belay posts on the east platform.

During the year the bolts and shackles on the fastenings of all fender logs have been replaced by new ones, and a leak in the water main under the pier has been repaired.

#### CASTLE ISLAND.

Castle Island in Boston Harbor, ceded to the United States by Chapter 13 of the Acts of 1798, was used for some years as a fortification and the exposed shores of the island were protected by granite sea walls. At present the city of Boston, by its Park Commissioners is allowed to use the island for park purposes.

Several years ago a break occurred in the sea wall on the northerly side of the island, at a point nearly opposite the end of the wooden bulkhead built by the Commonwealth in 1918 from the Reserved Channel to Castle Island upon a line parallel with the main ship channel. The necessary repairs to the sea wall were authorized by Chapter 22 of the Resolves of 1928:

"That the department of public works is hereby authorized and directed, subject to the approval of the war department of the United States, to make such repairs in the sea wall at Castle Island in Boston harbor as may be necessary, and may expend for such purpose, after an appropriation has been made, a sum not exceeding eight thousand dollars."

The plans for the proposed reconstruction were approved by the War Department, and a contract was made on Sept. 18, 1928, with the Bay State Dredging and Contracting Company to make repairs to a portion of the sea wall, to place heavy riprap in front of the wall and to remove about one hundred feet of wooden bulkhead. This work covered the reconstruction of about 70 feet of wall and the surfacing of the ground behind the structure. Approximately 100 feet of wooden bulkhead adjacent to the wall were removed and the free end of the structure reenforced by riprap.

Work under this contract was completed Oct. 27, 1928, at a cost of \$5,813.74.

#### PLEASANT PARK DREDGING, WINTHROP.

On Feb. 29, 1928, hearing was held upon a petition of the Pleasant Park Yacht Club for dredging a channel and anchorage basin in front of its clubhouse.

On Aug. 7, 1928, a contract was made with the Bay State Dredging and Contracting Company for dredging to a depth of not less than 6 feet at mean low water an area 240 feet long and 180 feet wide, and an approach channel 300 feet long and 60 feet wide at the inner end of the channel connecting with Belle Isle Inlet. The contract prices for this work were: for dredging the channel and basin and disposing of the dredged material 49 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 for each cubic yard. This work was completed Sept. 28, 1928, at a cost of \$11,359.00. Toward this cost a contribution of \$3,000 was made by the Pleasant Park Yacht Club.

### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR.

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$60,000 was made during 1928, with the following condition:

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$35,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Cohasset Harbor, Cohasset; Connecticut River at Hadley, Hatfield, Northfield and West Springfield; Manchester Harbor, Manchester; Provincetown Shore, Provincetown; Scituate Harbor, Scituate; West Harwich Shore, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Connecticut River, West Springfield; Provincetown Shore, Provincetown; Scituate Harbor, Scituate; West Harwich Shore, Harwich.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of the work done during the year 1928, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

#### ALLEN'S HARBOR, HARWICH.

The work of repairing timber jetties at the entrance to Allen's Harbor, under agreement of Oct. 20, 1927, with Frank C. Taylor, was completed Jan. 5, 1928.



In accordance with the terms of the contract a section of the westerly jetty, destroyed in October, 1927, was rebuilt, and additional piles were driven to strengthen the easterly jetty.

An inspection made in July showed the beach east of the easterly jetty eroded to such a degree that the sea might easily break through and damage both the jetties and the channel. An agreement was made Aug. 3, 1928, with William E. Burke to place filling back of the easterly jetty, at a cost of \$500. This work was completed Aug. 13, 1928.

On Sept. 18, 1928, a contract was made with George W. Starbuck for building about 200 linear feet of timber fence, placing 150 tons of stone riprap in front of the fence, removing 50 tons of stone riprap from a location about 300 feet northerly of the east jetty and replacing this stone on the shore at the northerly end of the present east timber jetty. The contract prices for the work were: for furnishing materials and labor for constructing the timber fence, including all excavation and incidental work, \$5.73 for each linear foot of completed fence; for furnishing and placing stone riprap, \$5.13 per ton of 2,000 pounds; for moving about 50 tons of stone chips and depositing them as riprap along the slope of the fill, the lump sum of \$62.50. This work was completed Oct. 30, 1928, at a total cost of \$2,402.12.

Amount expended during the year, \$7,101.88. Total expenditure to Dec. 1, 1928, \$23,193.33.

#### BRANT ROCK, MARSHFIELD.

The work of placing 363 linear feet of concrete footing under the sea wall at Brant Rock, in accordance with the terms of an agreement of Oct. 13, 1927, with Frank H. Barry, was completed Jan. 14, 1928, at a contract cost of \$2,013.45. Amount expended during the year, \$817.97. Total expenditure to Dec. 1, 1928, \$23,602.11.

#### CAPE POGUE CHANNEL, EDGARTOWN.

In June, an inspection of the riprap and jetties protecting the entrance channel to Cape Pogue Bay from Muskeget Channel, showed settlement of the riprap during the winter and urgent need for repairs. A contract was made on July 10, 1928, with the Bay State Dredging and Contracting Company for furnishing and placing about 400 tons of heavy stone riprap and 200 tons of stone chips to repair the jetties and riprap, at a contract price of six dollars for each ton of 2,000 pounds. This work was completed Aug. 10, 1928, when about 400 tons of stone had been used in rebuilding and strengthening the inshore end of the northerly jetty and about 202 tons similarly used in the inshore end of the southerly jetty. The total cost of work under this contract was \$3,757.50.

Amount expended during the year, \$3,757.50. Total expenditure to Dec. 1, 1928, \$42,396.50.

#### COHASSET HARBOR.

Hearing was held Apr. 25, 1928, upon the petition of Clarence W. Barron, and others, for dredging in Cohasset Harbor.

A contract with J. S. Packard Dredging Company was made on Aug. 21, 1928, for dredging to a depth of 6 feet at mean low water to remove shoals in the entrance channel and to provide additional anchorage areas in the inner harbor. The contract prices for this work were: for dredging and disposing of dredged material 44½ cents per cubic yard, scow measurement; for removing and disposing of boulders \$15 for each cubic yard.

Under this contract 5 shoals were removed from the entrance channel and the area of anchorage basins in the harbor was increased by about two acres. The work was completed Oct. 17, 1928, at a total cost of \$13,483.16. Toward this cost a contribution amounting to \$7,200 was made by the town, the Cohasset Yacht Club and by individuals interested.

Amount expended during the year, \$13,483.16. Total expenditure to Dec. 1, 1928, \$96,646.39.

## CONNECTICUT RIVER AND HOOSIC RIVER.

The serious conditions resulting from the destructive flood of Nov. 4-6, 1927, were recognized by the Legislature in the passing of Chapter 310 of the Acts of 1928:

"*Section 1.* After an appropriation has been made, the department of public works is hereby authorized to expend a sum, not exceeding sixty thousand dollars, for the purpose of safeguarding and protecting the lives of the people of the city of North Adams on the Hoosic river and of the towns of Hadley and Hatfield on the Connecticut river against perils from floods and erosion of banks of said rivers, and for said purpose the department may exercise all the powers conferred upon it by chapter ninety-one of the General Laws relative to the improvement of rivers and harbors.

*Section 2.* No money shall be expended under this act on behalf of said city or either of said towns until it has assumed liability for all damages to property suffered by any person by any taking, for so much of the purposes set forth in section one of this act, of land or of any right, interest or easement therein as relates to it."

Under the provisions of this act contracts have been made for protective work in the localities indicated by the statute. Further details of the plans followed are reported under the names of the municipalities.

*Connecticut River, Hadley.* Hearing was held Feb. 29, 1928, upon the petition of the Selectmen of Hadley for protective work.

In April, the Selectmen called attention to a washout and settlement of riprap on the southerly bank of the river north of Middle Street. Under an agreement of Apr. 30, 1928, with Gleason Bros. Inc., the necessary repairs were made by placing about 10 tons of riprap and 5 cubic yards of filling, at a total cost of \$41.85.

In accordance with the provisions of Chapter 310 of the Acts of 1928, plans were made by the Department for building an earth dike along the crest of the southerly bank of the river just north of the center of the town. At a meeting held Sept. 10, 1928, the town voted to assume all liability for damages in connection with this work, in order to meet the requirements of the statute.

On Oct. 2, 1928, a contract was made with the Kelleher Corporation to build an earth dike about 1,600 feet in length, along the southerly bank of Connecticut River, between Middle and West Streets, and to move a shed and tobacco barn on the site of the dike. The contract prices for this work were: for furnishing materials and constructing the dike 84 cents for each cubic yard measured in place in the completed work; for moving the tobacco barn and shed and placing them on new foundations, the sum of \$150. This work was completed Nov. 26, 1928, at a total cost of \$4,523.52.

Amount expended during the year, \$240.52. Total expenditure to Dec. 1, 1928, \$112,793.

*Connecticut River, Hatfield.* After the flood of November, 1927, repairs to the riprap upon a section of the westerly bank of the river were imperative to protect the existing dike against serious damage during the winter. Under an agreement with Gleason Bros., Inc., the work of placing about 500 cubic yards of filling and 700 tons of stone riprap was completed Dec. 28, 1927, at a total cost of \$4,840.21.

In accordance with the provisions of Chapter 310 of the Acts of 1928, plans were made by the Department for building an earth dike and placing riprap on the slope of the bank below. The town, at a meeting held Sept. 6, 1928, voted to assume all liability for damages in connection with the work, as required by the terms of the statute.

On Oct. 2, 1928, a contract was made with the Kelleher Corporation to furnish and place about 8,500 tons of stone riprap and to construct a dike about 2,150 feet long on the westerly bank of Connecticut River. The contract prices for this work are: for furnishing and placing riprap, \$2.35 per ton of stone in place on the bank of the river; for furnishing materials and constructing the dike, the sum of 84 cents for each cubic yard measured in place in the completed work.

Under this contract about 2,560 linear feet of river bank have been protected with riprap, and a dike has been built along the crest of the bank extending northerly from an old dike constructed in 1905. The work is now nearing completion.



Amount expended during the year, \$31,561.87. Total expenditure to Dec. 1, 1928, \$46,548.66.

*Connecticut River, Northfield.* The flood of Nov. 4-6, 1927, undermined the riprap upon the west bank of the river above Schell Bridge, making repairs necessary. On Mar. 6, 1928, a contract was made with the Kelleher Corporation to furnish and place about 600 tons of stone riprap on the westerly bank of Connecticut River north of Schell Bridge, at a contract price of \$2.70 per ton of stone in place in the completed work. Under this contract work was completed Mar. 16, 1928, at a total cost of \$1,073.81.

Amount expended during the year, \$1,073.81. Total expenditure to Dec. 1, 1928, \$6,094.09.

*Hoosic River, North Adams.* In accordance with the provisions of Chapter 310 of the Acts of 1928, the Department prepared a plan for deepening and widening certain sections of Hoosic River at North Adams, to prevent a recurrence of flood conditions of November, 1927, and for the removal of boulders and other débris deposited by the flood at various points in the river. The Municipal Council voted on Sept. 13, 1928, to assume, on behalf of the city, all liability for damages in connection with the work, as required by the terms of the statute.

On Oct. 16, 1928, a contract was made with Warner Bros. and Goodwin, Inc., for the excavation of about 7,000 cubic yards of material from the north branch of Hoosic River, and the removal of about 400 cubic yards of isolated boulders, tree stumps, logs and other débris interfering with the free flow of the river. The contract prices for this work are: for excavating material from the bed of the river or on the side slopes and depositing the same within fifty feet of the point where excavated, including the grading of the fill and all incidental work, \$1.00 for each cubic yard measured in place; for excavating material from the bed of the river or on the side slopes and disposing of the same as filling in the disposal areas west of the Brown Street Bridge and south of the concrete wall at Willow Dell Street, including the grading of the fill and all incidental work, \$2.00 for each cubic yard measured in place; for excavating boulders of one-half cubic yard or more and disposing of them in the area designated, including all blasting and incidental work, \$4.00 for each cubic yard; for removing from the river bed, stumps, logs or other débris including all cutting and incidental work, \$25.00 for each obstruction removed. This work is now in progress.

Amount expended during the year, \$10,403.27. Total expenditure to Dec. 1, 1928, \$10,403.27.

#### COTUIT SHORE PROTECTION, BARNSTABLE.

The work of repairs to the timber bulkhead and spur jetties, under agreement of Oct. 24, 1927, with Daniel Bros., was completed Dec. 28, 1927, at a total cost of \$1,096.56. Amount expended during the year, \$118.55. Total expenditure to Dec. 1, 1928, \$70,065.34.

#### ELLISVILLE HARBOR, PLYMOUTH.

During the winter material accumulated back of the northerly jetty and was carried by the sea over the top of the structure into the channel. To check this movement the timber fence built in 1927 along the crest of the jetty, was extended toward the sea about 50 feet and increased in height about eighteen inches. Amount expended during the year, \$438.46. Total expenditure to Dec. 1, 1928, \$19,660.43.

#### FALMOUTH SHORE PROTECTION.

An inspection of the sea wall at Falmouth Heights, showed that the beach had been washed away to such an extent that, in places, the base of the wall was exposed. As the town agreed to pay one-half the cost of the necessary repairs, a contract was made on May 1, 1928, with Frank A. Days and Sons to place about 700 tons of stone riprap in front of this wall, at a contract price of \$4.95 for each ton of 2,000 pounds in place in the completed work. Under this contract riprap was placed in front of the wall for a distance of 1,375 feet. This work was completed June 15, 1928, at a total cost of \$3,851.05. Amount expended during the year, \$3,851.05. Total expenditure to Dec. 1, 1928, \$57,709.13.

Under an agreement of May 26, 1928, the same contractor placed about 52 tons of stone chips north of the timber bulkhead east of the easterly jetty at Falmouth Inner Harbor. This work has been completed at a cost of \$289.68.

## GUN ROCK BREAKWATER, HULL.

An inspection of the breakwater at Gun Rock showed the necessity for rebuilding the top of the structure where the sea had dislodged the stones and caused a settlement varying from three feet to six feet. After the receipt of a letter from the Selectmen of Hull promising a contribution of one-half the cost of the work, a contract was made on Sept. 25, 1928, with the Bay State Dredging and Contracting Company to furnish and place about 2,500 tons of heavy stone riprap to raise the height and reshape the breakwater. The contract price for the work was \$4.87 for each ton of 2,000 pounds in place in the completed work.

Under this contract work was completed Oct. 20, 1928, at a total cost of \$12,-270.81. Amount expended during the year, \$10,442.65. Total expenditure to Dec. 1, 1928, \$76,111.17.

## LEWIS BAY, BARNSTABLE AND YARMOUTH.

Hearing was held Feb. 29, 1928, upon the petition of William Lovell, and others, for dredging a channel extending from Hyannis Harbor to the town landing at the head of Lewis Bay.

On Oct. 23, 1928, a contract was made with the Bay State Dredging and Contracting Company to dredge the entrance channel to Lewis Bay to a depth of 9 feet at mean low water, to a width of 100 feet on the bottom through the outer bars, and a width of 75 feet on the bottom through the inner portion of the channel, with increased width on the turns and at the inner end. The contract prices for this work are: for dredging the areas and disposing of the dredged material, 52 cents for each cubic yard, scow measurement; for removing and disposing of boulders, \$20 for each cubic yard. This work is now in progress.

Toward the cost of the work under this contract, a contribution of \$1,500 has been made by the town of Yarmouth, and one of \$15,000 by the town of Barnstable. Amount expended during the year, \$13,793.56. Total expenditure to Dec. 1, 1928, \$42,756.77.

## MANCHESTER HARBOR, MANCHESTER.

Hearing was held Feb. 29, 1928, upon the petition of the Selectmen of Manchester for dredging an anchorage basin and a channel near Bow Bell Ledge in the lower harbor.

On May 29, 1928, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 100 feet wide on the bottom and 6 feet deep at mean low water around Bow Bell Ledge in the entrance channel, to remove four shoals and to enlarge the anchorage basin to a depth of 6 feet at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material 38.4 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed July 12, 1928, at a total cost of \$14,551.77. Toward this cost a contribution of \$6,500 has been made by the town of Manchester.

Under this contract several small shoals were removed, an anchorage basin near the town landing was enlarged about two-thirds of an acre, and a channel 125 feet wide and 600 feet long dredged around the northerly side of Bow Bell Ledge. All dredging was done to a depth of 6 feet at mean low water. Amount expended during the year, \$14,551.77. Total expenditure to Dec. 1, 1928, \$150,478.05.

## MENAMSHA CREEK AND BASIN, CHILMARK.

By Chapter 221 of the Acts of 1928, the Department was authorized and directed to dredge and enlarge Menamsha Basin in the town of Chilmark in such location and to such depth as it may deem necessary, and to expend for the purpose a sum not to exceed \$20,000 upon condition that at least ten per cent of the amount is covered by contributions from municipalities or other organizations and individuals, and that liability for damages incurred is assumed by the town of Chilmark.

At a meeting held May 19, 1928, the town of Chilmark voted to assume all liability for damages and to appropriate \$2,000 toward the cost of the work.

In the meantime the Department considered a request from the Superintendent of Lighthouses for repairs to the easterly jetty at the entrance to Menamsha Harbor, and a report from the engineer relative to the condition of the riprap easterly of the east jetty. It was decided to include these repairs in the contract



for dredging and to pay the additional cost from the appropriation available for repairing damages.

On June 26, 1928, a contract was made with the Bay State Dredging and Contracting Company to dredge a basin and a shoal in the channel to a depth of 6 feet at mean low water, in Chilmark, and Gay Head, to place solid fill and stone chips on the beach east of the east jetty, and heavy stone riprap to strengthen the east jetty at Menamsha Creek. The contract prices for this work were: for dredging and disposing of material at sea, 37 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 for each cubic yard; for furnishing and placing solid fill back of riprap, \$1.63 for each cubic yard; for furnishing and placing granite chips as riprap back of present riprap, and placing heavy stone riprap to strengthen the east jetty, \$6.75 for each ton of 2,000 pounds. The work was completed Aug. 23, 1928, at a total cost of \$22,933.34.

Under this contract the area 6 feet deep in the anchorage basin was increased about  $3\frac{1}{2}$  acres, and shoals in the entrance channel and former basin were removed to the same depth. Filling was placed to strengthen the outer beach and riprap deposited upon the outer slope. Heavy riprap was placed around the light at the outer end of the east jetty and some stone used to strengthen and rebuild low sections of this jetty.

Amount expended during the year, \$22,933.34. Total expenditure to Dec. 1, 1928, \$116,992.11.

#### NEW BEDFORD STATE PIER.

The larger portion of this pier has been since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

During the year minor repairs have been made to the pier, including repairing leaks and cracks in the side walls and the replacing of a plank platform on the north side of the timber shed.

Two transportation companies have occupied space this year in the Immigration Shed, the only building on the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$1,900.34. Total expenditure for operation and maintenance to Dec. 1, 1928, \$47,892.16.

#### COMMONWEALTH PROPERTY AT PLYMOUTH.

An appropriation of \$9,000 was made in 1928 for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of placing gravel and stone riprap in front of the timber bulkhead at the pier on this property has continued during the year under an agreement with Arthur K. Finney, at contract prices of \$1.25 per cubic yard for filling; and of \$4.00 per ton of 2,000 pounds for stone riprap. The protection of the old timber bulkhead is now practically completed.

Repairs have been made to the planking on the deck of the pier and to the roadways. One caretaker has been permanently employed to give the necessary care to the grounds and additional help has been used as required. Amount expended during the year, \$8,285.81. Total expenditure to Dec. 1, 1928, \$26,050.44.

#### PROVINCETOWN TERCENTENARY COMMISSION.

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands.

A statue has been placed by the town as a war memorial upon a part of the park lands facing Commercial Street. This was done, with the approval of the Art Commission, under a permit from the Department. Permission has been granted, also, to the Cape Cod Pilgrim Memorial Association of Provincetown to build a parking area on property north of the drive leading to the Provincetown Monument, but work has not yet begun. One employee has been kept at work during the summer to maintain this park in proper condition.

#### ROCK HARBOR, EASTHAM AND ORLEANS.

Hearing was held Feb. 29, 1928, upon the petition of the Selectmen of Orleans, and others, for dredging Rock Harbor.

On Oct. 23, 1928, a contract was made with the Bay State Dredging and Contracting Company to dredge to the plane of mean low water the inner portion of the entrance channel at Rock Harbor, at a contract price of 55 cents per cubic yard of dredged material measured in place. Under this contract a channel 1,450 feet long, with a bottom width of 40 feet, was dredged to the level of the plane of mean low water.

This work was completed Nov. 22, 1928, at a total cost of \$7,411.09. Toward this cost a contribution of \$2,000 was made by the town of Orleans. Amount expended during the year, \$6,326.63. Total expenditure to Dec. 1, 1928, \$18,911.88.

#### SCITUATE SEA WALLS.

*Humarock Beach.* During the year the attention of the Department was called to certain repairs needed to the concrete sea wall at Humarock. Under an agreement of Aug. 22, 1928, with Frank H. Barry the holes in the top of the wall were repaired. This work, done on a basis of day labor, was completed Sept. 25, 1928, at a total cost of \$318.43. Amount expended during the year, \$318.43. Total expenditure to Dec. 1, 1928, \$57,279.06.

*The Glades Sea Wall, North Scituate.* An inspection of the sea wall at the Glades made evident the need for repairs and the advisability of increasing the height of certain sections of the wall.

On July 17, 1928, a contract was made with Frank H. Barry to include the construction of about 300 linear feet of concrete cap and the refinishing of the top of the existing concrete wall, at a contract price of \$15.35 for each cubic yard of concrete measured in the completed work.

The work was completed Sept. 12, 1928, at a total cost of \$1,914.96. Toward this cost a contribution of \$1,000 was made by the town of Scituate. Amount expended during the year, \$1,914.96. Total expenditure to Dec. 1, 1928, \$29,534.54.

*Third Cliff.* An inspection of the riprap at the northerly end of Third Cliff showed a considerable settlement of riprap and need of additional stone.

On July 17, 1928, a contract was made with Frank H. Barry to include the placing of about 100 tons of heavy stone riprap at the northerly end of Third Cliff, at a contract price of \$4.65 per ton of 2,000 pounds.

Under this contract about 128 tons of stone riprap were deposited for a distance of approximately 100 feet at the northerly end of the riprap previously placed. This work was completed Sept. 12, 1928, at a total cost of \$648.22. Amount expended during the year, \$648.22. Total expenditure to Dec. 1, 1928, \$121,353.34.

#### SEAPUIT RIVER, BARNSTABLE.

Hearing was held Feb. 29, 1928, upon the petition of Oyster Harbor, Inc., and others, for dredging Seapuit River between West Bay and Cotuit Harbor.

On Sept. 4, 1928, a contract was made with the Trimount Dredging Company to dredge a channel 40 feet wide on the bottom and 6 feet deep at mean low water, using the hydraulic method and disposing of the excavated material on the shore adjacent to the channel. The contract prices for this work are: for dredging the channel and disposing of the dredged material within specified areas, 32 cents per cubic yard, measured in place; for removing and disposing of boulders, \$20 per cubic yard. Work under this contract began Oct. 10, 1928, and is now in progress. Toward the cost of the work a contribution of \$13,000 has been made by Oyster Harbor, Inc.



Amount expended during the year, \$15,783.68. Total expenditure to Dec. 1, 1928, \$15,783.68.

#### WAQUOIT BAY, FALMOUTH AND MASHPEE.

An inspection of the breakwater at the entrance to Waquoit Bay showed that settlement had taken place at several points and that repairs were needed particularly at the inner end.

Proposals for this work were received but were rejected as excessive in price. Later it was decided to make repairs to the inner end of the breakwater by the use of concrete in bags. This work is now in progress under an agreement of Nov. 2, 1928, with John A. Davis.

Amount expended during the year, \$1,221.57. Total expenditure to Dec. 1, 1928, \$57,148.85.

#### WEST BAY, BARNSTABLE.

On Dec. 7, 1927, hearing was held upon the petition of the Wianno Club for dredging in West Bay.

On Jan. 9, 1928, a contract was made with the Wianno Dredge Co., Inc., to dredge two anchorage basins in West Bay at Osterville, one to a depth of 6 feet at mean low water, the other to a depth of 4 feet at mean low water, and to dredge a channel 100 feet wide on the bottom to a depth of 6 feet at mean low water at the entrance to West Bay. The contract prices for this work are: for dredging anchorage basin and channel and disposing of dredged material within specified areas, 42 cents for each cubic yard of material measured in place; for removing and disposing of boulders, \$14 for each cubic yard.

Work under this contract is not yet completed. Toward the cost of this work a contribution of \$5,000 has been made by the Wianno Club. Amount expended during the year, \$13,539.88. Total expenditure to Dec. 1, 1928, \$102,810.61.

#### WEST FALMOUTH HARBOR.

The work of making repairs to the timber breakwater at the harbor entrance, under agreement of Oct. 13, 1927, with Frank C. Taylor, was completed Dec. 14, 1927, at a total cost of \$5,719.47.

Under an agreement made Nov. 29, 1927, with William E. Burke about 506.285 tons of stone riprap were placed around the timber breakwater for a distance of 90 feet. This work was completed Feb. 18, 1928, at a total cost of \$3,878.56.

Later in the winter severe storms damaged seriously the portion of the breakwater protected by riprap and demolished the rest of the structure. A section about 100 feet long at the southerly end of the timber breakwater is now standing.

Amount expended during the year, \$9,281.03. Total expenditure to Dec. 1, 1928, \$63,350.92.

#### WEST HARWICH SHORE PROTECTION.

During the year complaints were received regarding erosion of the shore at West Harwich east of Herring River, and a petition was filed asking for a survey to determine the best method of protection. It was decided to experiment on a short section of this beach with the use of wire fencing as a protective barrier. Under an agreement of Nov. 20, 1928, with Louis A. Byrne, this fencing is now being placed. Toward the cost of the work a contribution of \$500 was made by owners of property affected.

Amount expended during the year, \$791.46. Total expenditure to Dec. 1, 1928, \$12,484.11.

#### WINTHROP SHORE.

*Great Head, Winthrop.* The work of building a concrete sea wall under contract of June 29, 1927, with Luke S. White, Inc., was completed Dec. 10, 1927, at a total cost of \$72,638.98.

Filling was placed back of a portion of this wall near its northerly end by the Boston Excavating Company under an agreement dated Dec. 2, 1927, at a cost of \$1,878.33. Additional filling and grading has been done since by the town of Winthrop.

This wall was built under the provisions of chapter 388 of the Acts of 1926, and of chapter 4, of the Acts of 1927. Amount expended during the year, \$14,577.72. Total expenditure to Dec. 1, 1928, \$74,975.23.

*Point Shirley Sea Wall.* Minor repairs have been made this year to the top and coping of the concrete sea wall at Point Shirley at a total cost of \$81.04. Amount expended during the year, \$81.04. Total expenditure to Dec. 1, 1928, \$20,322.26.

#### WITCHMERE HARBOR, HARWICH.

Hearing was held on Feb. 29, 1928, upon the petition of the Selectmen of Harwich, and others, for dredging.

On July 3, 1928, a contract was made with the Bay State Dredging and Contracting Company for dredging, to a depth of 5 feet at mean low water, the entrance channel and a portion of the anchorage basin at Witchmere Harbor, at the following contract prices: for dredging the channel and basin and disposing of the dredged material within a specified area, and at sea, 57 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 per cubic yard.

Under this contract the entrance channel, about 1,200 feet long, was dredged to a depth of 5 feet at mean low water with a bottom width of 40 feet, and an area of approximately 2 acres was dredged to increase the size of the anchorage basin. The work was completed Aug. 29, 1928, at a total cost of \$7,550.43. Toward this cost a contribution of \$2,000 was made by the town of Harwich.

Amount expended during the year, \$7,550.43. Total expenditure to Dec. 1, 1928, \$55,541.69.

#### MISCELLANEOUS.

##### ANGLE TREE MONUMENT RESERVATION.

Under the provisions of chapter 289 of the Acts of 1925, the Department on Mar. 3, 1927, made a taking of land to preserve and protect the Angle Tree Monument, so called, erected by the Commonwealth in 1790 to mark the site of the Angle Tree which served as a bound between the colonies of Massachusetts Bay and Plymouth, and to secure access to this monument from the highway.

During the year brush was cleared from the land taken, an iron fence was built to enclose an area about ten feet square around the monument, and a gravel walk 8 feet wide constructed extending 400 feet toward the monument from High Street. A timber gate and a turnstile have also been erected at the entrance to the property at High Street. Amount expended during the year, \$1,117.76. Total expenditure to Dec. 1, 1928, \$1,276.88.

##### GREAT PONDS.

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Baptist Pond, Chelmsford; Bucks Pond, Harwich; Cedar Pond, Carver; Flax Pond, Brewster; Forest Lake, Methuen; Furnace Pond, Pembroke; Grass Pond, Harwich; Lake Chaubunagungamaug, Webster; Lake George, Wales; Lake Quinsigamond, Shrewsbury; Lake Winthrop, Holliston; Long Pond, Harwich; Long Pond, Plymouth; Morse Pond, Wellesley; Oldham Pond, Hanson; Sampson's Pond, Carver; Silver Lake, Pittsfield; South Pond, Barnstable; Spectacle Pond, Lancaster; Warner Lake, Greenwich.

A list of the lakes and ponds of the State with areas of ten or more acres, given by counties, is printed in the report of the Commission on Waterways and Public Lands on "Water Resources of Massachusetts, 1918."

A survey was made this year of Quinapoxet Pond in the towns of Holden and Princeton. The present area of the pond was found to be approximately 102 acres, created, in part, by artificial flowage, but including a natural great pond of about 32.98 acres.

Amount expended during the year, \$843.81. Total expenditure to Dec. 1, 1928, \$12,143.56.



## ACCESS TO GREAT PONDS.

During the year only one petition relative to public access to great ponds was filed in accordance with the provisions of chapter 453 of the Acts of 1923.

On Feb. 1, 1928, the joint board gave a public hearing upon a petition of ten citizens of the Commonwealth representing that public necessity requires a right of way for public access to Lake Chaubunagungamaug in the town of Webster. After this hearing an examination of the lake shore was made by the engineer of the Department and an inspection by two members of the Board. A special report regarding this matter is to be made to the Legislature of 1929.

A special report under date of Dec. 30, 1927, was made to the Legislature relative to acquiring a right of way for public access to Flax Pond in the town of Brewster. This report concludes:

“Upon careful consideration of all the evidence the Board finds that no right of way for public access to Flax Pond exists, and that public convenience and necessity do not require that such right of way be established.”

A special report was also made to the Legislature, under date of Dec. 30, 1927, relative to acquiring a right of way for public access to Bucks Pond, Harwich. This report concludes:

“Upon careful consideration of all the evidence this Board finds that no right of way for public access to Bucks Pond exists, and that public convenience and necessity do not require that such right of way be established.”

Chapter 254 of the Acts of 1928 was passed in April, authorizing and directing the County Commissioners of Barnstable County to lay out a right of way for public access to Bucks Pond, — also known as Walker's Pond, — in Harwich, in accordance with plans approved by the Department of Public Works. Plans for this right of way submitted by the Barnstable County Commissioners were approved under date of Nov. 14, 1928.

Expenditures under the provisions of Chapter 453, Acts of 1923, are included in the amounts given under Great Ponds.

## PROVINCE LANDS.

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Twenty acres of sand dunes have been covered with brush and 70 loads of bayberry were transplanted to reinforce areas previously planted. In addition 21,000 native pines on the sod have been transplanted and 167,000 seedlings of Scotch and Austrian pines planted.

At the parking space for automobiles at the end of the State road, a part of the sod has been replaced.

The sum of \$251.30 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands.

Amount expended during the year, \$4,981.38. Total expenditure to Dec. 1, 1928, \$121,072.28.

## CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS.

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work

relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth.

Toward the cost of this work the Department has paid during the year, \$4,000.

#### TOPOGRAPHICAL MAP OF MASSACHUSETTS, TOWN BOUNDARY ATLASES OF THE BOUNDARY LINES OF CITIES AND TOWNS, AND OTHER MAPS.

Under authority of Section 33, Chapter 91, General Laws, as amended by Section 2, Chapter 57, Acts of 1923, and under previous laws, 4,061 sections of the topographical map of Massachusetts, 29 maps of Massachusetts dated 1917, 46 maps of Boston Inner Harbor edition of 1923, 4 maps of Cape Cod Canal, and 5 atlases of the boundary lines of cities and towns have been sold during the year ending Nov. 30, 1928, for which \$560.80 was received and paid into the treasury of the Commonwealth.

No town boundary atlases were distributed during the year under authority of Chapter 360, Acts of 1900, as amended by Chapter 484, Acts of 1909.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS.

By section 33, Chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation stations previously established in connection with the topographical survey of the Commonwealth and the town boundary survey, which have been lost or destroyed, and to obtain the geographical positions of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and geographical positions furnished to the Land Court: 11 stations in Chatham; 3 stations in Dennis; 21 stations in Harwich; 8 stations in Mashpee; 4 stations in Sudbury.

Amount expended during the year, \$952.80.

#### LICENSES AND PERMITS.

During the year 115 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 103 permits for miscellaneous purposes. The Department also approved 76 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

## APPENDIX.

### STATEMENT OF INCOME.

#### DEPARTMENT OF PUBLIC WORKS.

Year ending Nov. 30, 1928.

#### *Highway Fund.*

Ch. 288, Acts of 1925.

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . . . .	\$13,616,606	55 <sup>1</sup>
Fees refunded but not collected . . . . .	5,333	32
Contributions for highways and assessments (G. L., Ch. 81) . . . . .	992,943	40
Appropriation balances of previous years reverting . . . . .	135,549	96
Reimbursement for repairs to guard rails . . . . .	4,261	91
Miscellaneous receipts . . . . .	15,989	67
	<hr/>	\$14,770,684 81

<sup>1</sup> Refunds during the year, \$204,569.16.



*Port of Boston Fund.*  
Ch. 91, General Laws.

Rent (leases and permits)	\$202,184 53	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	2,271 65	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	163,411 32	
Use of Commonwealth Pier No. 1 (rentals, etc.)	3,927 98	
Use of Hayward Creek property (rentals)	1,030 00	
Revenue from permits for dumping dredged material at receiving basins	4,125 99	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	30,112 54	
Telephone pay station receipts	79 56	
Sales of land, South Boston	23,966 90	
Sale of gravel	800 00	
Sale of Boston Harbor maps	26 00	
		\$431,936 47

*Department Income.*  
(Ordinary Revenue.)

Reimbursement for services (heating, D Street Building)	\$5,832 00	
Sales (specifications and plans for contracts)	708 00	
Interest on bank accounts	2,221 41	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Ch. 196, Acts of 1925)	3,153 54	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	8,050 81	
Certified Copying Charges	161 00	
Sale of Atlas sheets and miscellaneous plans	793 55	
Use of Province Lands (S. 25, C. 91, G. L.)	251 30	
Permits for advertising signs	13,423 22	
Use of New Bedford State Pier	7,727 89	
		42,322 72

*Improvement of Rivers and Harbors Trust.*  
(Sections 11, 29, Ch. 91, Gen. Laws.)

Contributions from towns, individuals or others	\$60,700 00	60,700 00
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*Highway Trust.*  
(Section 30, Ch. 81, Gen. Laws.)

Federal Aid (reimbursement from U. S. Government)	\$966,420 45	966,420 45
Total		\$16,272,064 45

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,  
1859-1928, INCLUSIVE.

Payments.	To Nov. 30, 1927.	1928.	Total.
Boston Harbor	\$1,716,787 25 <sup>1</sup>		
Dredging and Filling		\$1,773 37	\$1,718,560 62
Commonwealth Flats, East Boston	3,070,234 37 <sup>2</sup>		
Streets, Piers and Railroads		999 75	
Aircraft Landing Field		98 67	3,071,332 79

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.00.

<sup>2</sup> Appropriated by City of Boston, \$10,000.00.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,  
ETC. — *Concluded.*

Payments.	To Nov. 30, 1927.	1928.	Total.
Commonwealth Flats, So. Boston	\$4,868,417 86		
Streets, Piers and Railroads		\$3,669 93	\$4,872,087 79
Castle Island	728,773 65		
Dredging and Filling		1,406 30	
Castle Island sea wall repairs		4,976 00	735,155 95
Commonwealth Pier No. 5 (Construction)	4,008,882 95		
Streets, Piers and Railroads		5,907 50	4,014,790 45
Commonwealth Pier No. 6	1,092,149 06		1,092,149 06
Dry Dock	3,169,651 15 <sup>1</sup>		3,169,651 15
Haywards Creek	385,959 61 <sup>2</sup>		385,959 61
Mystic River	428,463 41 <sup>3</sup>		428,463 41
Malden River	32,268 70 <sup>4</sup>		32,268 70
Chelsea Creek	60,519 88		60,519 88
Commercial Point, Dorchester Bay	53,213 10		53,213 10
Commonwealth Pier No. 1, East Boston	1,199,703 23		1,199,703 23
Commonwealth Pier No. 5, South Boston			
Operation and Supervision	1,095,330 27		
Operation and Maintenance of Pier 5		110,307 56	1,205,637 83
Commonwealth Pier No. 1, Maintenance	79,688 96		
Maintenance of Pier 1, East Boston		8,045 76	87,734 72
Maintenance of Property of Commonwealth	585,783 21		
Maintenance of Property		77,690 93	663,474 14
	\$22,575,826 66	\$214,875 77	\$22,790,702 43

<sup>1</sup> \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.  
<sup>2</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.  
<sup>3</sup> Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.00.  
<sup>4</sup> Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS, AND ITS PREDECESSORS, FROM 1893 TO 1928, INCLUSIVE.

Locality and Character of Work.	Contributions by	
	Municipality or Others.	Total Expenditure.
Cottage Park Channel, Winthrop, Dredging	\$1,000 00	\$22,012 08
Dorchester, easterly shore, Dredging and survey	1,000 00	85,315 60
Harbor View, Boston, Dredging	—	146 00
Hingham Harbor, Dredging	6,500 00	41,595 12
Hough's Neck Channel, Quincy, Dredging	3,500 00	29,856 28
Island End River, Everett, Survey	—	264 10
Jeffries Point Channel, Dredging	—	2,961 90
Mystic River (near Lawrence & Wiggin's Wharf)		
Dredging	—	5,927 70
Neponset River, Dredging	10,000 00	101,533 69
Old Harbor Cove, Dredging	—	9,821 69
Orient Heights Channel, Dredging	—	45,323 67
Pemberton Point, Hull, Breakwater	60,000 00	90,520 98



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by	
	Municipality or Others.	Total Expenditure.
Pleasant Park Yacht Club Channel, Dredging . . . . .	\$3,000 00	\$14,513 92
Point Allerton, Hull, sea wall . . . . .	50,000 00	75,127 05
Point Shirley, Dredging . . . . .	—	3,713 37
Quincy Bay, Dredging . . . . .	3,000 00	54,663 17
Shirley Gut, Boston and Winthrop, Dredging . . . . .	—	2,110 96
South Boston, Southerly Shore, Dredging . . . . .	—	129,542 08
Stony Beach, Hull, Sea Wall . . . . .	—	12,326 09
Town River, Quincy, Survey . . . . .	—	865 84
Weir River, Hull, Dredging . . . . .	25,000 00	130,963 51
Wessagussett Channel, Dredging . . . . .	—	815 20
Weymouth, Fore River, Dredging . . . . .	8,250 00	69,469 09
Winthrop Harbor Channels, Dredging . . . . .	1,700 00	39,783 58
	<hr/>	<hr/>
	\$172,950 00	\$969,172 67

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM  
DEC. 1, 1927, TO NOV. 30, 1928.

Location and Character of Work.	Contributions.	Expenditures.
Allen's Harbor, Harwich, Jetties . . . . .		\$7,101 88
Brant Rock, Marshfield, Sea Wall . . . . .		817 97
Cape Poge, Edgartown, Jetties and Riprap . . . . .		3,757 50
Cohasset Harbor, Cohasset, Dredging . . . . .	\$7,200 00	13,483 16
Connecticut River, Surveys . . . . .		1,338 86
Connecticut River, Hadley, Earth Dike and Riprap . . . . .		240 52
Connecticut River, Hatfield, Earth Dike and Riprap . . . . .		31,561 87
Connecticut River, Northfield, Riprap . . . . .		1,073 81
Cotuit Harbor, Cotuit, Bulkhead repairs . . . . .		118 55
Ellisville Harbor, Plymouth, Jetty repairs . . . . .		438 46
Falmouth Heights, Falmouth, Riprap . . . . .	2,000 00	3,851 05
Falmouth Inner Harbor, Falmouth . . . . .		289 68
Great Ponds, Survey . . . . .		843 81
Gun Rock Point, Hull, Breakwater repairs . . . . .		10,442 65
Herring River, Harwich, Jetties and Fence . . . . .		997 72
Hoosic River, North Adams, Excavation . . . . .		10,403 27
Improvement of Rivers and Harbors, General expenses . . . . .		1,852 05
Lewis Bay, Barnstable, Dredging . . . . .	16,500 00	13,793 56
Manchester Harbor, Manchester, Dredging . . . . .	6,500 00	14,551 77
Menamsha Inlet, Chilmark and Gay Head, Dredging, Fill and Riprap . . . . .	2,000 00	22,933 34
Rock Harbor, Orleans, Dredging . . . . .	2,000 00	6,326 63
Scituate:		
Glades, sea wall repairs . . . . .	1,000 00	1,914 96
Humarock Beach, sea wall repairs . . . . .		318 43
Third Cliff, riprap . . . . .		648 22
Scituate Harbor, surveys . . . . .		228 28
Seapuit River, Barnstable, Dredging . . . . .	13,000 00	15,783 68
Shirley Gut, sea wall repairs, see Winthrop Shore.		
Waquoit Bay, Falmouth, Breakwater repairs . . . . .		1,221 57
West Bay, Barnstable and Osterville, Dredging . . . . .	5,000 00	13,539 88
West Falmouth Harbor, Falmouth, Breakwater repairs and riprap . . . . .		9,281 03
West Harwich . . . . .	500 00	791 46
Winthrop Shore, Sea wall and protection work . . . . .		14,658 76
Witchmere Harbor, Harwich, Dredging . . . . .	2,000 00	7,550 43
Wrecks and Obstructions, Removal of . . . . .		370 86
	<hr/>	<hr/>
	\$57,700 00	\$212,525 67

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1928, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Acushnet River, Inspection and dredging . . . . .	—	\$119,792 10
Allen's Harbor, Harwich, Surveys and Jetties . . . . .	\$7,627 50	23,193 33
Allen's Pond, Dartmouth, Survey . . . . .	—	195 95
Angle Tree Monument — Reservation . . . . .	—	1,276 88
Annisquam River, Gloucester, Dredging, removing ledges and riprap . . . . .	6,250 00	141,958 21
Apponagansett Harbor and River, Dartmouth, Survey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, Barnstable, Survey and dred- ing . . . . .	1,500 00	18,554 64
Bass River, Beverly, Dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, Jetties, dred- ging and survey . . . . .	2,500 00	115,390 70
Beach Street, Scituate. See Scituate.		
Beverly Harbor, Dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, sea wall . . . . .	5,326 15	23,602 11
Buck's Creek, Chatham, Jetties, survey and dredging . . . . .	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey . . . . .	—	166 11
Cape Poge, Edgartown, Cut through beach, Jetties and riprap . . . . .	16,500 00	42,396 50
Cataumet Harbor. See Megansett Harbor.		
Cedar Point, Scituate. See Scituate.		
Centerville River, Barnstable, Dredging . . . . .	1,500 00	7,603 22
Cohasset Harbor, Cohasset, Breakwater and Dredging . . . . .	33,691 88	96,646 39
Concord River, Billerica, Removing boulders . . . . .	150 00	1,664 59
Connecticut River, Investigation of navigation and surveys . . . . .	—	8,413 48
Connecticut River, Agawam, Protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, Survey, wall and riprap . . . . .	640 00	25,789 02
Connecticut River, Hadley, Protective work and diversion wall . . . . .	5,000 00	112,793 00 <sup>2</sup>
Connecticut River, Hatfield, Dikes and riprap . . . . .	1,000 00	46,548 66
Connecticut River, Holyoke, Marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Holyoke, Dredging and pro- tective work . . . . .	1,991 29	9,253 27
Connecticut River, Northampton, Protective work . . . . .	—	1,524 20
Connecticut River, Northfield, Riprap . . . . .	—	6,094 09
Connecticut River, South Hadley, Wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Spring- field, Protective work . . . . .	—	12,510 08 <sup>3</sup>
Conservation of Waters, Investigation . . . . .	—	63,764 54
Cotuit Harbor, Barnstable, Dredging, survey and Bulkhead repairs . . . . .	8,183 38	70,065 34
Cuttyhunk Harbor, Gosnold, Jetties and dredging . . . . .	9,000 00	70,754 18
Deacon's Pond Harbor, Falmouth. See Falmouth Inner Harbor.		

<sup>1</sup> \$50,000.00 expended by U. S. Government.

<sup>2</sup> From 1888 inclusive.

<sup>3</sup> From 1891 inclusive.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by		Total Expenditure.
	Municipality or Others.		
Duxbury Bay and Harbor, Dredging . . . . .	\$2,000	00	\$42,602 29
East Bay, Osterville, Jetties, Dredging and re- moving scows . . . . .	10,000	00	70,924 23
Edgartown Harbor, Survey and cut in beach . . . . .	300	00	3,496 64
Ellisville Harbor, Plymouth, Dredging and Jetty repairs . . . . .	—		19,660 43
Essex County Beaches, Survey . . . . .	—		1,000 00
Essex River, Essex, Dredging . . . . .	—		76,304 33 <sup>1</sup>
Fall River Harbor, Improvement . . . . .	—		1,130 18
Falmouth Heights, Falmouth, sea wall and riprap . . . . .	16,222	54	57,709 13
Falmouth Inner Harbor, Dredging, Jetties, wall and riprap . . . . .	29,000	00	143,734 26
First and Second Cliffs, Scituate. See Scituate.			
Fresh Water Cove, Gloucester, Dredging . . . . .	3,300	00	17,477 53
Gay Head Survey . . . . .	—		555 42
Glades, North Scituate. See Scituate.			
Gloucester, Western Avenue, sea wall . . . . .	35,000	00	60,000 00
Gloucester Harbor, Gloucester, Dredging and re- moving ledges . . . . .	7,500	00	118,994 65
Great Head, Winthrop. See Winthrop Shore.			
Great Ponds, Survey . . . . .	—		12,143 56
Green Harbor, Marshfield, Jetties, Dredging and survey . . . . .	—		76,466 85
Gun Rock Point, Hull, Breakwater . . . . .	10,000	00	76,111 17
Harbor Cove, Gloucester, Survey and dredging . . . . .	3,866	00	25,155 04
Herring Creek, Scituate, Survey . . . . .	—		253 76
Herring River, Harwich, Jetties and dredging and fence . . . . .	2,500	00	58,181 14
Herring River, Wellfleet, Dikes and ditches . . . . .	10,000	00	34,509 38
Hoosic River, North Adams, Excavation . . . . .	—		10,403 27
Housatonic River, Sheffield, Survey . . . . .	—		2,011 29
Hull, sea walls and survey . . . . .	8,882	06	37,906 21
Humarock Beach, Scituate. See Scituate.			
Hyannisport, Barnstable, Survey and Breakwater Improvement of Rivers and Harbors, General expenses . . . . .	2,500	00	65,017 76
Ipswich River, Ipswich, Jetty, wall, riprap and dredging . . . . .	—		31,117 99
King's Beach, Swampscott, removal of obstruc- tion . . . . .	3,800	00	58,989 55
Lake Anthony, Oak Bluffs, Jetties and dredging . . . . .	—		166 41
Lake Quannapowitt, Wakefield, Investigation . . . . .	5,000	00	75,531 24
Lewis Bay, Barnstable, Survey and dredging . . . . .	—		345 32
Little Harbor, Marblehead, Dredging . . . . .	16,500	00	42,756 77
Little River, Gloucester, Survey . . . . .	2,500	00	11,166 16
Little River, Gloucester, Survey . . . . .	—		862 93
Lobster Cove, Gloucester, Dredging . . . . .	4,500	00	61,603 36
Lynn Harbor, Anchorage Basin, Survey and dredging . . . . .	5,200	00	121,609 22
Lynn Harbor and Saugus River, Dredging and filling . . . . .	37,500	00	163,431 53
Manchester Harbor, Survey, Jetties and dredging . . . . .	63,500	00	150,478 05
Mattapoissett Harbor, Survey . . . . .	—		255 48
Megansett Harbor, Dredging . . . . .	12,730	00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, Jetties, dredging, sea wall and riprap . . . . .	2,700	00	116,992 11

<sup>1</sup> \$5,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Merrimack River, Investigation and survey . . . . .	—	\$1,208 50
Mill River, Gloucester, Survey and dredging . . . . .	\$300 00	24,899 59
Mitchell's River, Chatham, Survey and dredging . . . . .	6,000 00	23,113 92
Nahant, Survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, dredging . . . . .	5,500 00	28,529 62
Nantucket, Survey of Sesachacha Pond . . . . .	—	110 66
Nantucket Harbor, Dredging . . . . .	5,000 00	58,982 52
Nauset Harbor and Town Cove, Dredging . . . . .	2,000 00	10,671 24
New Bedford Harbor, Dredging . . . . .	—	18,856 57
New Bedford State Pier, Pier shed and dredging . . . . .	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, Operation and Maintenance . . . . .	—	47,892 16
Newburyport Harbor, Survey . . . . .	—	115 97
Nobscusset Harbor, Dennis, Breakwater, dredging and riprap . . . . .	1,200 00	39,778 84
North River, Marshfield, Surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, Survey . . . . .	—	704 52
North Scituate. See Scituate.		
Oak Bluffs, Removing rocks . . . . .	—	594 95
Oak Bluffs, Sea walls . . . . .	27,500 00	90,321 98
Ocean Grove, Swansea Survey . . . . .	—	143 23
Onset Bay, Wareham, Survey and dredging . . . . .	1,000 00	15,295 89
Orleans, Survey . . . . .	—	104 18
Palmer's Pond, Falmouth, Survey . . . . .	—	358 76
Pamet River, Truro, Survey, dredging and re- pairing Jetties . . . . .	1,200 00	198,010 32
Paskamansett River, Dartmouth, Dredging and Jetty . . . . .	—	5,227 68
Penikese Island, Gosnold, Pile Wharf and survey . . . . .	—	5,192 95
Pines River, Revere and Saugus, Survey . . . . .	—	904 80
Pleasant Bay, Chatham, Dredging . . . . .	600 00	2,364 33
Plum Island River, Newbury and Newburyport, Survey . . . . .	—	983 31
Plymouth Harbor, Dredging and removing old piling . . . . .	71,794 55 <sup>2</sup>	282,632 13
Plymouth Memorial Park, Maintenance . . . . .	—	26,050 44
Point Shirley, Winthrop. See Winthrop Shore.		
Popponnessett Bay, Barnstable and Mashpee, Dredging . . . . .	—	46,252 33
Powow River, Amesbury, Dredging channel and riprapping wall . . . . .	—	502 94
Province Lands, Provincetown, Reclamation . . . . .	—	121,072 28
Provincetown Harbor, Shore protection . . . . .	—	28,410 11
Quansett Harbor, Orleans, Survey and dredging . . . . .	500 00	2,194 50
Red Brook Harbor, Bourne, Removing pier . . . . .	—	275 00
Revere, Stone Breakwater . . . . .	—	60,397 93
Rock Harbor, Orleans, Dredging . . . . .	2,400 00	18,911 88
Rockport Harbor, Dredging and removing rocks . . . . .	500 00	15,555 58
Salem Harbor, Survey . . . . .	—	1,509 92
Salt Pond River, Eastham, Survey . . . . .	—	210 11
Salter's Point, Dartmouth, Breakwater . . . . .	4,500 00	42,939 57
Sand Hills, Scituate. See Scituate.		
Sandwich Harbor, Dredging channel, riprap and Jetties . . . . .	—	80,579 84

Paid by Surety Company.

<sup>2</sup> \$57,000.00 expended under direction of U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Concluded.*

Locality and Character of Work.	Contributions by Municipality or Others.	Total Expenditure.
Saugus River, Lynn and Saugus, Survey and dredging . . . . .	\$2,000 00	\$20,845 17
Scituate, Shore Protection —		
Beach Street, Scituate, wall and jetties . . . . .	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater . . . . .	21,446 64	37,305 40
First and Second Cliffs, Scituate, wall and riprap . . . . .	2,297 92	13,053 52
Glades, North Scituate, filling and riprap . . . . .	13,250 78	29,534 54
Humarock Beach, Scituate, Survey, wall and jetties . . . . .	37,816 38	57,279 06
North Scituate, Surfside, spur jetties . . . . .	1,757 60	16,566 19
Sand Hills, Scituate, wall and jetties . . . . .	4,511 26	12,624 06
Third Cliff, Scituate, riprap and survey . . . . .	75,193 10	121,353 34
Scituate Harbor, Dredging and surveys . . . . .	13,300 00	125,286 11
Scorton Harbor, Sandwich, Jetty and dredging . . . . .	500 00	17,774 34
Seapuit River, Barnstable, Dredging . . . . .	13,000 00	15,783 68
Sesuit Harbor, Dennis, Jetty . . . . .	1,500 00	24,555 10
Shirley Gut, Survey . . . . .	—	97 05
Sippican Harbor, Marion, Survey . . . . .	—	7 17
Smith's Cove, Gloucester, Survey and dredging . . . . .	3,875 00	13,466 16
South River, Salem, Dredging . . . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, Fenders and excavation . . . . .	—	203 42
Stage Harbor, Chatham, Dikes and survey . . . . .	—	10,803 01
Taunton-Brockton Waterways, Investigation . . . . .	—	5,278 18
Taunton River, Survey and dredging . . . . .	12,500 00	28,697 18
Taunton River-Boston Harbor Canal, Survey . . . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, Survey . . . . .	—	11,786 71
Third Cliff, Scituate. See Scituate.		
Vineyard Haven Harbor, Repairing sea wall . . . . .	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, Breakwater and dredging . . . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater, wall and bulkhead . . . . .	2,000 00	57,148 85
Wareham River, Survey and dredging . . . . .	5,000 00	42,567 93
Warrens Cove, Plymouth, Sea wall and survey . . . . .	9,713 98	25,099 86
Watch Hill, Chatham, Survey and riprap . . . . .	—	14,968 75
Water Conservation. See Conservation of Waters.		
Wellfleet Harbor, Wellfleet, Survey and dredging . . . . .	1,500 00	17,600 29
West Bay, Barnstable and Osterville, Survey, Jetties and dredging . . . . .	15,000 00	102,810 61
West Falmouth Harbor, Falmouth, Dredging and breakwater . . . . .	11,473 75	63,350 92
West Harwich, Survey . . . . .	3,500 00	12,484 11
Westfield River, Westfield, Survey and Jetties . . . . .	—	6,037 29
Westport Harbor, Westport, Jetty extension . . . . .	—	19,025 07
Wild Harbor, Falmouth, Jetty and dredging . . . . .	5,000 00	36,137 71
Winthrop Shore, Sea walls and protective work . . . . .	40,500 00	95,297 49
Witchmere Harbor, Harwich, Jetties and dredging . . . . .	3,000 00	55,541 69
Woods Hole, Great Harbor, Falmouth, Dredging . . . . .	1,500 00	6,968 86
Wrecks, Removal from tidewater . . . . .	—	10,463 08
Yarmouthport Harbor, Survey . . . . .	7,000 00	95,977 37
	<hr/> \$931,988 27	<hr/> \$6,317,248 23

## FEDERAL APPROPRIATIONS AND EXPENDITURES.

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1928, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present under Improvement.*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1928.)

Locality.	Expenditures.	Appropriations.
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Boston Harbor . . . . .	13,137,767 58	13,389,862 58
Gloucester Harbor . . . . .	538,183 00	538,983 00
Beverly Harbor . . . . .	246,690 41	247,190 41 <sup>1</sup>
Salem Harbor . . . . .	71,368 66	71,868 66
Lynn Harbor . . . . .	471,937 00	472,637 00
Mystic River . . . . .	306,684 84	307,184 84
Dorchester Bay and Neponset River . . . . .	94,584 55	129,108 00
Weymouth Fore River . . . . .	637,605 04	642,150 00 <sup>1</sup>
Weymouth Back River . . . . .	27,000 00	27,350 00
Plymouth Harbor . . . . .	421,184 80	433,184 80 <sup>2</sup>
Cape Cod Canal . . . . .	3	100,000 00 <sup>4</sup>
Operating and care of Cape Cod Canal . . . . .	38,149 12	38,149 12
Provincetown Harbor . . . . .	348,062 72	348,562 72
Pollock Rip Shoals, Nantucket Sound . . . . .	1,235,792 27	1,290,000 00
Harbor of Refuge at Nantucket . . . . .	632,362 33	633,473 50
New Bedford and Fairhaven Harbor . . . . .	935,851 58	938,110 00
Fall River Harbor . . . . .	411,614 47	412,411 49
Taunton River . . . . .	204,329 19	204,689 18
	<hr/>	<hr/>
	\$20,260,067 56	\$20,725,815 30

<sup>1</sup> In addition \$100,000 has been contributed by local interests.

<sup>2</sup> In addition \$108,400 has been contributed by local interests.

<sup>3</sup> Purchase of canal authorized by River and Harbor act approved January 21, 1927, canal and properties taken over by United States on March 31, 1928, at cost of \$11,500,000.

<sup>4</sup> For maintenance work.



TABLE NO. 2. — *Localities in which Work is not now in progress.*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army.)

Locality.	Expenditures.	Appropriations.
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis Breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Marthas Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Scituate Harbor . . . . .	104,590 98	104,680 00
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
Total . . . . .	\$3,764,685 67	\$3,787,270 97
<i>Recapitulation.</i>		
Total of Table No. 1 . . . . .	\$20,260,067 56	\$20,725,815 30
Total of Table No. 2 . . . . .	3,764,685 67	3,787,270 97
Grand Total . . . . .	\$24,024,753 23	\$24,513,086 27

## EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1928.

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

Locality.	Expenditures.	Appropriations.
Boston Harbor proper <sup>1</sup> . . . . .	\$13,137,767 58	\$13,389,862 58
Mystic River . . . . .	306,684 84	307,184 84
Total . . . . .	\$13,444,452 42	\$13,697,047 42

<sup>1</sup> Including Chelsea Creek.





## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work.	Contractor.	Date.
151	Great Head, Winthrop, sea wall and riprap.	Luke S. White . . . . .	June 29, 1927
153	Commonwealth Pier No. 5, South Boston, floating fender logs.	W. H. Ellis & Son Company .	Aug. 10, 1927
154	Commonwealth Pier No. 5, South Boston, building toilet room.	Joseph P. O'Hearn . . . .	Sept. 7, 1927
155	Commonwealth Pier No. 5, South Boston, building additional room.	J. Slotnik Company . . . .	Sept. 15, 1927
157	Commonwealth Pier No. 5, South Boston, downspouts and drain connections at Viaduct.	Joseph P. O'Hearn . . . .	Sept. 28, 1927
158	Commonwealth Pier No. 5, downspouts .	Joseph P. O'Hearn . . . .	Oct. 26, 1927
159	Commonwealth Pier No. 1, East Boston, repairing timber platforms.	W. A. Norton Company . . .	Oct. 26, 1927
160	West Bay, Barnstable, dredging . . .	Wianno Dredge Company, Inc. .	Jan. 9, 1928
161	Connecticut River, Northfield, riprap .	Kelleher Corporation . . . .	Mar. 6, 1928
162	Falmouth Heights Sea Wall, riprap . .	Frank A. Days & Sons . . .	May 1, 1928
163	Commonwealth Pier No. 5, South Boston, floating fender logs.	S. W. K. Brooks . . . . .	May 22, 1928
164	Menamsha Basin . . . . .	Bay State Dredging and Con- tracting Co.	June 26, 1928
165	Manchester Harbor, dredging . . . .	Bay State Dredging and Con- tracting Co.	May 29, 1928
166	Witchmere Harbor, Harwich, dredging .	Bay State Dredging and Con- tracting Co.	July 3, 1928
168	Commonwealth Pier No. 5, repairing tim- ber platforms.	W. H. Ellis & Son Co. . . .	June 19, 1928
170	Cape Poge, Edgartown, repairs to jetties and riprap.	Bay State Dredging and Con- tracting Co.	July 10, 1928
171	North Scituate Sea Wall & Third Cliff, Scituate, repairs and riprap.	Frank H. Barry	July 17, 1928

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1928.

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1928.	Total paid to Nov. 30, 1928.	Estimated Amount of Contract.
Completed Dec. 10, 1927	For furnishing materials and constructing sea wall, \$18 per cubic yard of concrete measured in place in the completed work.	\$12,036 50	\$70,950 00	\$70,000 00
Completed Dec. 7, 1927	For furnishing and placing heavy stone riprap and stone chips, \$5.00 per ton of 2,000 pounds in place in the completed work.	232 35	1,549 00	1,446 00
Completed Dec. 7, 1927	For furnishing, fitting and securing floating fenders: \$263 for each fender 70 ft. to 75 ft. long; \$300 for each fender 76 ft. or more long.	489 75	3,265 00	3,265 00
Completed Dec. 22, 1927	For detaching, moving, and securing in another location present fender logs, \$80 for each fender log.	2,047 95	7,380 00	7,380 00
Completed Jan. 20, 1928	Lump sum of \$3,265.00 . . . . .	763 95	2,791 20	2,650 00
Completed Feb. 14, 1928	Lump sum of \$7,380.00 . . . . .	2,170 89	2,799 89	1,640 00
Completed Dec. 20, 1927	For new downspouts complete in place, \$92.50 each.	1,157 90	1,658 72	2,263 00
In progress	For repairing existing downspouts, \$4.00 each. Unit prices.	11,286 20	11,286 20	18,074 00
Completed Mar. 16, 1928	For dredging and disposing of dredged material, 42 cents per cubic yard of material measured in place.	939 17	939 17	1,620 00
Completed June 15, 1928	For removing boulders, \$14.00 per cubic yard. For furnishing and placing riprap, \$2.70 per ton of stone in place in the completed work.	3,504 45	3,504 45	3,500 00
Completed June 29, 1928	For furnishing, fitting and securing fender logs in place: 1. \$255.00 for each log 50 feet to 55 feet long. 2. \$259.00 for each log 56 feet to 60 feet long. 3. \$280.00 for each log 66 feet or more long.	1,668 00	1,668 00	1,800 00
Completed Aug. 23, 1928	For detaching, moving and securing in another location existing fender logs, \$40.00 for each fender log moved.	22,055 16	22,055 16	24,000 00
Completed July 12, 1928	For dredging and disposing of dredged material, 37 cents per cubic yard, scow measurement.	13,506 31	13,506 31	12,500 00
Completed Aug. 29, 1928	For removing boulders, \$20 per cubic yard. For furnishing and placing solid fill back of riprap, \$1.63 per cubic yard.	6,854 25	6,854 25	7,500 00
Completed Aug. 8, 1928	For furnishing and placing granite chips back of present riprap, and heavy stone to strengthen east jetty, \$6.75 per ton of 2,000 pounds.	1,065 73	1,065 73	845 60
Completed Aug. 10, 1928	For dredging and disposing of dredged material, 57 cents per cubic yard measured in place.	3,612 00	3,612 00	3,600 00
Completed Sept. 12, 1928	For removing boulders, \$20 per cubic yard. For furnishing, driving, fitting and securing fender piles, \$73 for each fender pile.	2,045 11	2,045 11	1,693 00
	For furnishing, driving, fitting and securing new foundation piles, \$75 each.			
	For furnishing and placing screw bolts, drift bolts, iron bands and fittings, 10 cents for each pound of metal.			
	For furnishing, fitting and securing yellow pine lumber in the platform, \$148 for 1,000 feet of lumber measured in place in completed work.			
	For furnishing and placing heavy stone riprap and granite chips, \$6 for each ton of 2,000 pounds.			
	For furnishing materials and constructing repairs and additions to sea walls, \$15.35 per cubic yard of concrete measured in completed work.			
	For furnishing and placing stone riprap at northerly end of Third Cliff, \$4.65 per ton of 2,000 pounds.			



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work.	Contractor.	Date.
172	Commonwealth Pier No. 5, metal covering for steam pipes.	George H. Priggen Company .	July 31, 1928
173	Commonwealth Pier No. 5, South Boston, repairing plaster walls.	Cement Gun Company . .	Aug. 7, 1928
174	Cohasset Harbor, dredging . . .	J. S. Packard Dredging Company	Aug. 21, 1928
175	Pleasant Park Yacht Club, Winthrop, dredging.	Bay State Dredging and Contracting Co.	Aug. 7, 1928
176	Seapuit River, Barnstable, dredging .	Trimount Dredging Company .	Sept. 4, 1928
177	Castle Island, South Boston, repairs to sea wall.	Bay State Dredging and Contracting Co.	Sept. 18, 1928
178	Allens Harbor, Harwich, timber fence and riprap.	George W. Starbuck . . .	Sept. 18, 1928
179	Gun Rock Point, Hull, repairs to break-water.	Bay State Dredging and Contracting Co.	Sept. 25, 1928
180	Connecticut River, Hatfield, earth dike and riprap.	Kelleher Corporation . . .	Oct. 2, 1928
181	Connecticut River, Hadley, earth dike .	Kelleher Corporation . . .	Oct. 2, 1928
182	Hoosic River, North Adams . . .	Warner Bros. & Goodwin, Inc. .	Oct. 16, 1928
183	Commonwealth Pier No. 5, build engineering offices.	George W. Nicoll Co., Inc. .	Oct. 23, 1928
184	Lewis Bay, Barnstable and Yarmouth, dredging.	Bay State Dredging and Contracting Co.	Oct. 23, 1928
185	Rock Harbor, Eastham and Orleans, dredging.	Bay State Dredging and Contracting Co.	Oct. 23, 1928

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1928 — *Continued.*

Condition of Work.	Contract Prices.	Amount paid during Year ending Nov. 30, 1928.	Total paid to Nov. 30, 1928.	Estimated Amount of Contract.
Completed Sept. 1, 1928	For furnishing and installing complete a sheet iron covering for steam pipes, \$650.00.	\$650 00	\$650 00	\$650 00
Completed Oct. 23, 1928	Unit prices . . . . .	8,173 06	8,173 06	8,918 20
Completed Oct. 17, 1928	For dredging and disposing of dredged material, 44½ cents per cubic yard measured in scows.	12,275 77	12,275 77	10,695 00
	For removing and disposing of boulders, \$15 per cubic yard.			
Completed Sept. 28, 1928	For dredging and disposing of dredged material 49 cents per cubic yard measured in scows.	10,943 17	10,943 17	9,820 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For dredging and disposing of dredged material within specified areas, 32 cents per cubic yard, measured in place.	15,405 54	15,405 54	23,200 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Oct. 27, 1928	Unit prices . . . . .	4,747 17	4,747 17	5,385 00
Completed Oct. 30, 1928	For furnishing materials and labor to build timber fence, \$5.73 for each linear foot of completed fence.	1,788 48	1,788 48	1,978 00
	For furnishing and placing stone riprap, \$5.13 for each ton of 2,000 pounds.			
	For moving and depositing as riprap along the slope of the fill, 50 tons of stone chips, \$62.50.			
Completed Oct. 20, 1928	For furnishing and placing heavy stone riprap, \$4.87 for each ton of 2,000 pounds in place in the completed work.	10,359 60	10,359 60	12,175 00
In progress	For furnishing and placing riprap, \$2.35 per ton of stone in place on bank of river.	25,951 79	25,951 79	30,000 00
	For furnishing materials and constructing dike, 84 cents for each cubic yard measured in place in completed work.			
Completed Nov. 26, 1928	For furnishing materials and constructing dike, 84 cents per cubic yard measured in place in completed dike.	—	—	4,014 00
	For moving tobacco barn and shed and placing them on new foundations, the lump sum of \$150.			
In progress	For excavating material from bed of river or on side slopes and depositing it within fifty feet of point where excavated, grading fill, and all incidental work, \$1.00 for each cubic yard measured in place.	9,301 24	9,301 24	19,000 00
	For excavating material from river and disposing of it in disposal areas west of Brown Street Bridge and south of concrete wall at Willow Dell Street, \$2.00 for each cubic yard measured in place.			
	For excavating boulders and disposing of them in area designated, \$4 for each cubic yard.			
	For removing from river bed stumps, logs or other débris, \$25 for each obstruction removed.			
In progress	For furnishing labor and materials and building engineering offices and rooms, \$53,630.	15,954 93	15,954 93	64,000 00
	For removing broken glass and furnishing and setting new wire glass, \$1.30 for each light of glass placed.			
In progress	For reputting glass, 80 cents per light of glass.	12,206 71	12,206 71	30,020 00
	For dredging and disposing of dredged material, 52 cents for each cubic yard measured in scows.			
	For removing boulders, \$20 for each cubic yard.			
Completed Nov. 22, 1928	For dredging channel and disposing of dredged material within area marked Disposal Area, 55 cents for each cubic yard measured in place.	6,145 29	6,145 29	7,500 00



## LETTER CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

Work.	Contractor.
Commonwealth Pier No. 5, elevator repairs . . . . .	George T. McLauthlin Co. . . . .
Commonwealth Pier No. 5, retubing boilers . . . . .	New England Iron Works Co. . . . .
Angle Tree Monument Reservation, North Attleboro, removing brush and trees.	A. S. Phillips & Co. . . . .
Commonwealth Pier No. 5, heating plant repairs . . . . .	Pierce & Cox . . . . .
Commonwealth Pier No. 5, heating plant repairs . . . . .	Pierce & Cox . . . . .
Angle Tree Monument Reservation, North Attleboro, gravel walk, pipe culvert, etc.	W. H. Riley & Son . . . . .
Angle Tree Monument Reservation, North Attleboro, wrought iron fence	W. A. Snow Iron Works . . . . .
Herring River, West Harwich, fence . . . . .	George W. Starbuck . . . . .
West Falmouth, breakwater repairs . . . . .	Frank C. Taylor . . . . .
Allens Harbor, Harwich, jetty repairs . . . . .	Frank C. Taylor . . . . .
Commonwealth Pier No. 5, repairs to blow-off pipe . . . . .	Walworth-English-Flett Co. . . . .
Commonwealth Pier No. 5, repairing salt water fire service pumps.	Worthington Pump & Machinery Corporation
Commonwealth Pier No. 5, repairing fire pump . . . . .	Worthington Pump & Machinery Corporation
Brant Rock, Marshfield, repairs to sea wall . . . . .	Frank H. Barry . . . . .
South River, Marshfield, removal of wreck . . . . .	Frank H. Barry . . . . .
Humarock Beach, Scituate, repairs to sea wall . . . . .	Frank H. Barry . . . . .
Boston Harbor, removal of obstruction in tidewater . . . . .	Bay State Dredging & Contracting Co. . . . .
Winthrop, filling back of sea wall . . . . .	Boston Excavating Co. . . . .
West Falmouth, stone riprap . . . . .	William E. Burke . . . . .
Allens Harbor, Harwich, fill back of east jetty . . . . .	William E. Burke . . . . .
West Harwich, construction of fence . . . . .	Louis A. Byrne . . . . .
Cotuit, repairs on bulkhead . . . . .	Daniel Bros. . . . .
Waquoit, breakwater repairs . . . . .	John A. Davis . . . . .
Falmouth Inner Harbor, riprap . . . . .	Frank A. Days & Sons . . . . .
Commonwealth Pier No. 5, masonry repairs . . . . .	Maurice M. Devine . . . . .
Commonwealth Pier No. 5, replacing section of fender cap.	W. H. Ellis & Son Co. . . . .
Plymouth Pier, gravel filling and granite chips at bulkhead.	Arthur K. Finney . . . . .
Plymouth Pier, repairing and replacing fender piles . . . . .	Arthur K. Finney . . . . .
Plymouth Pier, furnishing and spreading fertilizer . . . . .	John B. Finney . . . . .
Connecticut River, Hatfield, fill and stone riprap . . . . .	Gleason Bros. Inc. . . . .
Connecticut River, Hadley, fill and stone riprap . . . . .	Gleason Bros. Inc. . . . .
Commonwealth Pier No. 5, steel office partition . . . . .	E. F. Hauserman Co. . . . .
Commonwealth Pier No. 5, Ogden door repairs . . . . .	Kinnear Mfg. Co. . . . .
Ellisville Harbor, Plymouth, jetty and excavating channel.	Percy H. Marsh . . . . .
Commonwealth Pier No. 5, repairs to copper sky lights	Massachusetts Cornice Co. . . . .
Commonwealth Pier No. 5, repairs to masonry work, boiler settings.	Edward F. McKenna . . . . .

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1928

Date.	Condition of Work.	Amount paid during Year end- ing Nov. 30, 1928.	Total paid to Nov. 30, 1928.
July 6, 1928	Completed Oct. 5, 1928 . . . . .	\$1,025 44	\$1,025 44
Aug. 30, 1928	Completed Oct. 8, 1928 . . . . .	432 00	432 00
Jan. 11, 1928	Completed Feb. 10, 1928 . . . . .	75 00	75 00
May 18, 1928	Completed July 11, 1928 . . . . .	98 00	98 00
July 24, 1928	Completed Oct. 1, 1928 . . . . .	824 40	824 40
Apr. 18, 1928	Completed Sept. 11, 1928 . . . . .	389 00	389 00
Dec. 14, 1927	Completed Jan. 19, 1928 . . . . .	350 00	350 00
Jan. 31, 1928	Completed Feb. 24, 1928 . . . . .	853 00	853 00
Oct. 13, 1927	Completed Dec. 14, 1927 . . . . .	5,236 16	5,236 16
Oct. 20, 1927	Completed Jan. 5, 1928 . . . . .	4,187 38	4,187 38
Jan. 16, 1928	Completed Feb. 20, 1928 . . . . .	27 08	27 08
Mar. 23, 1928	Completed Mar. 31, 1928 . . . . .	160 00	160 00
June 4, 1928	Completed June 16, 1928 . . . . .	96 00	96 00
Oct. 13, 1927	Completed Jan. 14, 1928 . . . . .	668 35	2,013 45
Feb. 13, 1928	Completed April 7, 1928 . . . . .	350 00	350 00
Aug. 22, 1928	Completed Sept. 25, 1928 . . . . .	235 60	235 60
Sept. 24, 1928	Completed Sept. 24, 1928 . . . . .	750 00	750 00
Dec. 2, 1927	Completed Jan. 6, 1928 . . . . .	1,878 33	1,878 33
Nov. 29, 1927	Completed Feb. 18, 1928 . . . . .	3,290 85	3,290 85
Aug. 3, 1928	Completed Aug. 13, 1928 . . . . .	500 00	500 00
Nov. 20, 1928	In progress . . . . .	-	-
Oct. 24, 1927	Completed Dec. 28, 1927 . . . . .	118 55	1,024 53
Nov. 2, 1928	In progress . . . . .	1,082 90	1,082 90
May 26, 1928	Completed June 15, 1928 . . . . .	289 68	289 68
May 10, 1928	Completed July 21, 1928 . . . . .	3,024 30	3,024 30
Dec. 28, 1927	Completed July 30, 1928 . . . . .	93 00	93 00
Nov. 3, 1927	Completed Mar. 14, 1928 . . . . .	4,712 16	4,712 16
June 1, 1928	Completed June 15, 1928 . . . . .	50 00	50 00
Mar. 21, 1928	Completed May 4, 1928 . . . . .	275 00	275 00
Nov. 29, 1927	Completed Dec. 28, 1927 . . . . .	4,452 60	4,452 60
Apr. 30, 1928	Completed May 5, 1928 . . . . .	41 85	41 85
Sept. 10, 1928	Completed Nov. 28, 1928 . . . . .	287 30	287 30
Nov. 30, 1927	Completed Mar. 31, 1928 . . . . .	5,654 40	5,654 40
June 1, 1928	Completed Sept. 8, 1928 . . . . .	438 46	438 46
Nov. 2, 1928	Completed Nov. 22, 1928 . . . . .	629 48	629 48
May 10, 1928	Completed Oct. 8, 1928 . . . . .	635 41	635 41



# INDEX

## *General*

	PAGE
Appropriations . . . . .	3
Departmental Receipts . . . . .	79
Organization, under chapter 16, General Laws, as amended . . . . .	1
Personnel . . . . .	1
Recommendations for Legislation . . . . .	2
Special Reports by Department of Public Works . . . . .	1

## *Relating to Highways*

Advertising Signs and Devices within the Public View . . . . .	46
Bridges, in general . . . . .	29
Fall River-Somerset,— over Taunton River . . . . .	35
Newburyport-Salisbury,— over Merrimack River . . . . .	35
Common Carriers, Permits to use Highways . . . . .	46
Contract Prices, Dec. 1, 1927, to Nov. 30, 1928 . . . . .	48
Contracts signed during the Year . . . . .	14
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties . . . . .	10
Expenditures, Summary for the Year . . . . .	10
Federal Aid in Constructing Highways . . . . .	25
Allotments to Massachusetts . . . . .	26
Mileage . . . . .	26
Statement of Road Projects . . . . .	26
General Statement as to Surveys, Plans, Estimates and other Work during the Year . . . . .	11
Highway Fund . . . . .	79
Highway Improvements authorized by Special Acts . . . . .	24
Expenditures during the Year in Five Western Counties . . . . .	24
Highway, Squantum District, City of Quincy . . . . .	25
Traffic Artery, City of Cambridge . . . . .	25
Maps, sale of . . . . .	47
Petitions, Meetings and Hearings . . . . .	11
Public Ways, exclusive of State Highways, in certain Towns . . . . .	40
Allotments or Contributions by the State and Towns . . . . .	41
Expenditures in Various Counties and Towns . . . . .	44
Towns where Work has been contracted for . . . . .	41
Southern Route . . . . .	25
State Highways . . . . .	12
Construction and Reconstruction . . . . .	14
Contracts entered into for Work in Various Municipalities . . . . .	14
Expenditures in Various Counties and Municipalities . . . . .	21
Flood Damage to Highways . . . . .	23
Maintenance and Repair . . . . .	21
Expenditures in Various Counties and Municipalities . . . . .	21
Permits issued for Opening or Occupying State Highways . . . . .	12
Petitions received during the Year . . . . .	12
Regulation of Traffic during Winter 1927-28 . . . . .	45
Removal of Snow and Ice . . . . .	23
Resurfacing and Widening . . . . .	12
Roadside Maintenance and Development . . . . .	45
Traffic Signs, Lights, Markings, etc. . . . .	45
Trees . . . . .	12
Town and County Ways . . . . .	35
Allotments or Contributions by the State, Towns and Counties . . . . .	35
Expenditures in Various Counties and Towns . . . . .	39
Towns where Work has been contracted for . . . . .	35
Type of Road and Length contracted for . . . . .	35

*Relating to Registry of Motor Vehicles*

PAGE

Accident Report Letters . . . . .	55
Aircraft . . . . .	59
Analysis of Court Abstracts received . . . . .	55
Branch Offices . . . . .	60
Comparative Statement for 1927 and 1928 . . . . .	63
Comparative Statement showing Ratio of Yearly Registrations to Deaths and Injuries; and Suspensions, etc. . . . .	55
Conference of Motor Vehicle Administrators . . . . .	59
Examinations for Licenses . . . . .	57
Expenditures for 1928 . . . . .	62
Headlighting . . . . .	58
Insurance, Motor Vehicle Liability . . . . .	57
Investigations and Prosecutions by Inspectors . . . . .	55
Motor Vehicle Deaths, Injuries, Collisions . . . . .	54
Number of Children killed and injured . . . . .	54
Number of Collisions . . . . .	54
Number of Persons killed and injured . . . . .	54
Motor Vehicle Equipment, Inspection of . . . . .	58
Rear Lamps . . . . .	58
Registrations, Licenses, Fees . . . . .	61
Analysis of Receipts . . . . .	61
Cost of Running the Registry of Motor Vehicles . . . . .	61
Court Fines received by the Treasurer and Receiver General . . . . .	61
Motor Vehicle Fees Rebated . . . . .	61
Passenger Cars, Commercial Vehicles and Motor Cycles . . . . .	61
Total Receipts credited Highway Fund, 1928 . . . . .	61
Revocations and Suspensions for 1927-28 . . . . .	56
Save-a-Life Campaign . . . . .	58
Used-car Section . . . . .	59
Motor Vehicle Identification . . . . .	59
Engine Numbers assigned . . . . .	60
Motor Vehicles stolen . . . . .	60
Reports . . . . .	60

*Relating to Waterways and Public Lands*

Allen's Harbor, Harwich . . . . .	69
Angle Tree Monument Reservation . . . . .	77
Brant Rock, Marshfield . . . . .	70
Boston Harbor . . . . .	64
Castle Island . . . . .	68
Commonwealth Flats at East Boston . . . . .	67
Aircraft Landing Field . . . . .	67
Commonwealth Pier No. 1 . . . . .	68
Dredging and Filling . . . . .	68
Commonwealth Flats at South Boston . . . . .	64
Commonwealth Pier No. 5 . . . . .	64
Commonwealth Pier No. 6 . . . . .	66
Development of Land South of Summer Street . . . . .	66
Railroad Yards of Commonwealth . . . . .	67
Viaduct . . . . .	66
Commonwealth Piers, Rules, Regulations and Charges . . . . .	65
Expenditures for Development and Improvement in Boston Harbor 1859-1928, inclusive . . . . .	80
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1928, inclusive . . . . .	81
Pleasant Park Dredging, Winthrop . . . . .	69
Wharfage and Other Charges for use of Commonwealth Piers in Boston Harbor . . . . .	65
Cape Poge Channel, Edgartown . . . . .	70
Cohasset Harbor . . . . .	70



	PAGE
Connecticut River . . . . .	71
Hadley . . . . .	71
Hatfield . . . . .	71
Northfield . . . . .	72
Conserving and Equalizing the Flow of Water in Rivers and Streams . . . . .	78
Contracts and and Letter Contracts made and in force during year ending Nov. 30, 1928 . . . . .	90
Cotuit Shore Protection, Barnstable . . . . .	72
Ellisville Harbor, Plymouth . . . . .	72
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1928, excepting Boston Harbor . . . . .	83
Expenditures and Contributions for River and Harbor Work from Dec. 1, 1927, to Nov. 30, 1928 . . . . .	82
Falmouth Shore Protection . . . . .	72
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1928 . . . . .	87
Great Ponds . . . . .	77
Access to:	
Bucks' Pond or Walkers Pond, Harwich . . . . .	78
Flax Pond, Brewster . . . . .	78
Lake Chaubunagungamaug, Webster . . . . .	78
Gun Rock Breakwater, Hull . . . . .	73
Hoosic River . . . . .	72
North Adams . . . . .	72
Income, Statement of . . . . .	79
Lewis Bay, Barnstable and Yarmouth . . . . .	73
Licenses and Permits . . . . .	79
Manchester Harbor, Manchester . . . . .	73
Menamsha Creek and Basin, Chilmark . . . . .	73
New Bedford State Pier . . . . .	74
Plymouth, Commonwealth Property . . . . .	74
Port of Boston Fund . . . . .	80
Province Lands . . . . .	78
Provincetown Tercentenary Commission . . . . .	74
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor . . . . .	69
Rock Harbor, Eastham and Orleans . . . . .	75
Scituate Sea Walls . . . . .	75
Humarock Beach . . . . .	75
The Glades, North Scituate . . . . .	75
Third Cliff . . . . .	75
Seapuit River, Barnstable . . . . .	75
Topographical Map of Massachusetts, Town Boundary Atlases of the Boundary Lines of Cities and Towns and other Maps . . . . .	79
Triangulation Stations, Re-establishment of Certain . . . . .	79
Waquoit Bay, Falmouth and Mashpee . . . . .	76
West Bay, Barnstable . . . . .	76
West Falmouth Harbor . . . . .	76
West Harwich Shore Protection . . . . .	76
Winthrop Shore . . . . .	76
Great Head . . . . .	76
Point Shirley Sea Wall . . . . .	77
Witchmere Harbor, Harwich . . . . .	77







The Commonwealth of Massachusetts

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ANNUAL REPORT

OF THE

Department of Public Works

FOR THE YEAR ENDING NOVEMBER 30, 1929







# The Commonwealth of Massachusetts

## TENTH ANNUAL REPORT

OF THE

## DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1929

*To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the tenth annual report of the Department of Public Works for the year ending Nov. 30, 1929.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, WILLIAM F. WILLIAMS<sup>1</sup> and FRANK E. LYMAN.<sup>2</sup>  
Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, FRANK E. LYMAN<sup>2</sup> and HERMAN A. MACDONALD.<sup>3</sup>

The Department has continued its policies regarding highway improvements in selecting the types of highways and pavements best adapted to the needs of traffic and materials available. The mileage of new State highways laid out and constructed, and of State highways widened and reconstructed amounted to 120 miles. In cooperation with the cities, towns and counties, under the provisions of chapter 90, General Laws, the Department has also constructed 160 miles of highways. The total mileage (280 miles) constructed during the year exceeded that of the previous year, and likewise, the expenditures in 1929 were \$1,500,000 in excess of 1928. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and improvement of about 8,200 miles of public ways, exclusive of State highways, in about 170 towns.

Recognizing the need for wider and heavier types of surface, the Department has included in its work of the year a considerable mileage of roadways having a travelled width of thirty or forty feet.

The Newburyport Turnpike, a State highway, Route 1, one of the important projects, will be greatly improved by the completion of contracts awarded for the widening of the travelled way to thirty feet, affording three 10-foot lanes for traffic for a distance of seven miles extending northerly from Lynnfield, which was the northerly end of the widening completed last year, to the town of Ipswich. That portion of the turnpike built last year in Malden, Melrose and entering Saugus, is 40 feet in width. That portion of this route in Malden, southerly from the end of the turnpike in Malden is also under reconstruction, 44 feet in width.

The Mohawk Trail, Route 2, has been greatly improved by the completion of the reconstruction of about 16 miles from Charlemont to North Adams, the surface of which is bituminous macadam of a coarse texture, twenty-four feet in width, in extension of the work completed last year.

One interesting new State highway is the road in Provincetown and on the Province Lands, and extension to Race Point Road which opens up a beach heretofore inaccessible, said to be one of the finest on the coast.

Other prominent projects were the Milford-Upton reconstruction, the Lanesborough cut-off, the Falmouth cut-off and the Norton-Mansfield-Attleboro construction and reconstruction.

The elimination of two extremely dangerous underpasses at Palmer, where the State highway passed under the tracks of the Boston and Albany Railroad was effected by the construction of a by-pass. Also a cut-off in Lanesborough has eliminated, for through traffic, one grade crossing and one dangerous railroad bridge. A total of six grade crossings have been eliminated during the year.

<sup>1</sup> Resigned Dec. 26, 1928.

<sup>2</sup> Appointed Commissioner of Public Works Dec. 26, 1928.

<sup>3</sup> Appointed Dec. 29, 1923.



Several cut-offs have been completed, as for example, the Templeton cut-off, on Route 2, extending from the State highway in Gardner, thence through Templeton to a connection with the State highway at Phillipston. The southerly route from Worcester to Springfield via Charlton, Sturbridge and Brimfield has been greatly improved by construction of new State highway and the branch from Sturbridge through Holland on the Boston-Hartford-New York route.

Among the prominent cooperative projects were the following:—the reconstruction of a bridge and highway connecting Shawsheen Village with the town of Andover proper; and the Westfield-Holyoke work.

The construction of the Alewife Brook parkway extension has been largely completed, providing a 40-foot bituminous macadam roadway, with two truss and girder bridges to carry this road over the tracks of the Boston and Maine Railroad. Upon completion, portions of this road will become part of the boulevard system of the Metropolitan District and the balance will remain as city streets of Cambridge.

In traffic matters, the Department, under the provisions of chapter 357, Acts of 1928, has issued Rules and Regulations for traffic on State highways and through ways so designated by the Department and also issued Bulletin No. 2, a Standard Code for Traffic Control Signal Installation and Operation, applicable to all highways within the Commonwealth. Numerous additional direction and warning signs as well as route numbers have been erected on the State highways and other important routes.

The outstanding waterways projects were the dredging of Town River, Quincy, Annisquam River, Gloucester, and Scituate Harbor, Scituate. Under legislative authorization the Department moved two hangars erected by the Commonwealth to new locations at the Boston Airport.

The engineering and clerical staff of the Department and the Registry of Motor Vehicles was as follows:—

Chief Engineer, ARTHUR W. DEAN.<sup>1</sup>

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

### *Registry of Motor Vehicles*

Registrar, GEORGE A. PARKER.

Deputy Registrar, ANTHONY A. BONZAGNI.

<sup>1</sup> Appointed Chief Engineer Jan. 8, 1929 (formerly Chief Highway Engineer).

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.  
 Chief Administrative Clerk, CHARLES R. GILLEY.  
 Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,  
*Commissioner of Public Works.*

DEC. 1, 1929.

## SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction of a bridge over the Mystic River in the city of Medford and related improvements. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 35, Resolves of 1928. (Senate 4 of 1929.)

The taking over and maintenance by the Commonwealth of certain bridges on main through routes of travel. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 38, Resolves of 1928. (Senate 10 of 1929.)

Protecting the cities and towns in the Hoosac and Connecticut River valleys from flood damage. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 28, Resolves of 1928. (House 111 of 1929.)

A boulevard from Stoneham to the Quannapowitt Parkway in Wakefield. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 42, Resolves of 1928. (House 149 of 1929.)

The rebuilding of Baker and Ocean avenues in the city of Revere. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 45, Resolves of 1928. (House 190 of 1929.)

The improvement of Broadway in Malden and certain ways in Braintree, Weymouth and Hingham. Report made Dec. 1, 1928, under chapter 46, Resolves of 1928. (House 211 of 1929.)

A State highway in Revere from Broadway to the Revere Beach Parkway at Revere Street. Report made Dec. 1, 1928, under chapter 55, Resolves of 1928. (House 127 of 1929.)

Acquiring the right of way for public access to Lake Chaubunagungamaug in the town of Webster. Report made Dec. 1, 1928, by the Department of Public Works and the Attorney General, jointly, under chapter 453, Acts of 1923. (House 155 of 1929.)

Reports made by special commissions of which the Commissioner of Public Works was a member.

The lighting of State and other highways and the apportionment of the cost thereof. Report made Dec. 10, 1928, by a Special Commission under chapter 39, Resolves of 1928. (House 132 of 1929.)

Unsanitary conditions in Savin Hill Bay, and the dredging of Commercial Point Channel and of a channel to the Dorchester Yacht Club landing. Report made by a special commission under chapter 39, Resolves of 1928. (House 185 of 1929.)

The advisability of filling in South Bay and part of Fort Point Channel in Boston Harbor. Report made Dec. 24, 1928, by a Special Commission under chapter 23, Resolves of 1927. (House 1010 of 1929.)

## RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1928, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

### 1. *Certain Contracts Relative to the Construction of Highways*

The present necessity in the program for the development of the State highways places greater emphasis on the construction of new State Highways, and as pertinent to this need and as a means of expediting the seasonal construction work, it is recommended that the Department of Public Works be author-



ized to make contracts for the construction of State highways in anticipation of appropriations therefor, in the same manner as authorized for the reconstruction of State highways, as provided in section twenty-seven of chapter twenty-nine, General Laws. The suggested amendment and the other laws relating to the construction of State highways provide for the approval of such expenditures by the Governor and Council.

*2. Increasing the Penalty for Operating a Motor Vehicle after Suspension or Revocation of the Registration thereof, or after Suspension or Revocation of a License or Right to Operate Motor Vehicles*

A more effective provision of the law relating to the matter of the operation of motor vehicles after suspension or revocation of registration thereof, or after suspension or revocation of licenses to operate, is deemed to be necessary, and therefore it is recommended that penalty for such offences be appreciably increased by amendment to section twenty-three, chapter ninety, of the General Laws.

*3. Regulating the Drawing of Trailers and Other Vehicles by Motor Vehicles*

One of the most hazardous features of the operation of motor vehicles, with trailers, on the highways, is the use of more than one such trailer. Such combinations of vehicles create another element of uncertainty in the overtaking and passing by other vehicles, and furthermore it is not believed that the highways should become roadways for trains of such vehicles. It is therefore recommended that section nineteen of chapter ninety, General Laws, be amended to prohibit such operation.

*4. Regulating the Cancellation of Motor Vehicle Liability Policies for Failure to Pay any Sum on Account of Premiums*

Experience in connection with the procedure in the matter of the cancellation of motor vehicle liability policies indicates that a modification of section nine of chapter ninety, General Laws, is advisable, in order to regulate the cancellation of such policies for failure to pay any sum on account of premiums.

*5. Including within the Provisions of Motor Vehicle Laws, Excepting Those Requiring Liability Insurance and the Payment of Registration Fees, Certain Vehicles Heretofore Excluded Therefrom*

In order to clarify the law relating to the definition of motor vehicles and to registrations of certain vehicles heretofore excluded from the provisions of the motor vehicle laws, excepting those requiring liability insurance and the payment of registration fees, amendments to various sections of chapter ninety are recommended. These relate particularly to vehicles of the police departments and other municipally owned automobiles, but further provide that they need not be registered or insured, and that they shall display distinctive number plates which shall be furnished and authorized by the Registrar of Motor Vehicles.

*6. Fees for Registration of Certain Motor Vehicles and to Rebates on Account Thereof*

It is deemed advisable to abolish so-called half fees and rebates in connection with the registrations of certain motor vehicles, and an amendment to section two of chapter ninety, General Laws, is accordingly recommended.

*7. Providing for a Reasonable Fee for the Periodic Inspection of Motor Vehicles and Trailers*

The periodic inspection of motor vehicles and trailers for the determination of the condition of equipment is very important, and in order to provide for the successful carrying out of such work it is recommended that a reasonable fee should be provided for, by an amendment to section seven A, of chapter ninety, General Laws, as inserted by chapter two hundred and fifty-two of the Acts of 1929.

APPROPRIATIONS

Chapter 146, Acts of 1929, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

Item	Requirements for Extinguishing the State Debt	
209.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million one hundred forty-two thousand seventeen dollars and forty-nine cents, payable from the following accounts and funds in the following amounts:—from receipts from loans for the abolition of grade crossings, the sum of thirty-four thousand dollars; from the Highway Fund, the sum of three hundred sixty-three thousand seventeen dollars and fifty cents; from the balance of the receipts of the sale of the Boston dry dock, two hundred fifty thousand dollars; from the balance of the receipts of the sale of bonds for the defence of the Commonwealth, sixty-five thousand six hundred ten dollars and thirty-six cents; and the remainder from the general fund . . . . .	\$1,142,017 49

Interest on the Public Debt

210.	For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding one million dollars, of which sum three hundred sixty-two thousand six hundred fifty-one dollars and twenty-five cents shall be paid from the Highway Fund . . . . .	1,000,000 00
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Service of the Department of Banking and Insurance

Division of Insurance:

288.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred sixty thousand dollars, of which sum not more than twenty-eight thousand dollars may be charged to the Highway Fund . . . . .	160,000 00
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Service of the Department of Public Works

The appropriations made in the following three items are to be paid two-thirds from the Highway Fund and one-third from the Port of Boston receipts:

628.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . . .	19,500 00
629.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ten thousand eight hundred dollars . . . . .	10,800 00
630.	For travelling expenses of the commissioners, a sum not exceeding four thousand dollars . . . . .	4,000 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

631.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and	
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## Item

	stenographers, a sum not exceeding seventy-eight thousand eight hundred dollars . . . . .	\$78,800 00
632.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding twelve thousand dollars . . . . .	12,000 00
633.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding fifteen thousand dollars . . . . .	15,000 00
634.	For the construction and repair of town and county ways, a sum not exceeding two million dollars . . . . .	2,000,000 00
635.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred thousand dollars . . . . .	900,000 00
636.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding six million five hundred thousand dollars . . . . .	6,500,000 00
637.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding eighteen thousand dollars . . . . .	18,000 00
638.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars . . . . .	1,500,000 00
639.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand five hundred dollars, to be paid from the general fund . . . . .	15,500 00
	Registration of Motor Vehicles:	
640.	For personal services, a sum not exceeding eight hundred eighteen thousand dollars, to be paid from the Highway Fund . . . . .	818,000 00
641.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred twenty-two thousand dollars, to be paid from the Highway Fund . . . . .	522,000 00
642.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund . . . . .	2,500 00
	Functions of the department relating to waterways and public lands:	
643.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars . . . . .	52,000 00
644.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding three thousand dollars . . . . .	3,000 00
645.	For the care and maintenance of the province lands and the lands acquired and structures erected by the	

Item		
	Provincetown tercentenary commission, a sum not exceeding five thousand dollars . . . . .	\$5,000 00
646.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding forty thousand dollars . . . . .	40,000 00
647.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
648.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00
649.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding one thousand dollars . . . . .	1,000 00
650.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the Port of Boston receipts . . . . .	110,000 00
651.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts . . . . .	8,000 00
652.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding seventy thousand dollars, to be paid from the Port of Boston receipts . . . . .	70,000 00
653.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars	5,000 00
654.	For the compensation of dumping inspectors, a sum not exceeding five thousand dollars . . . . .	5,000 00
655.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars . . . . .	4,000 00
	Specials:	
656.	For dredging channels and filling flats, a sum not exceeding twenty-five thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose .	25,000 00
657.	For expenses of locating state boundary monuments, a sum not exceeding one thousand dollars . . . . .	1,000 00



Item

*Miscellaneous*

The following five items are to be paid from the Highway Fund:

679.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred thirty-seven thousand six hundred dollars, representing the state's portion or one half of the estimated cost of maintenance . . . . .	\$237,600 00
680.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing . . . . .	50,000 00
681.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twelve thousand five hundred dollars, representing the state's portion or one half of the estimated cost . . . . .	12,500 00
682.	For the construction of a certain parkway or boulevard along the southerly side of the Charles river basin, as authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of construction, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	100,000 00
683.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding thirty-one hundred dollars . . . . .	3,100 00

*Metropolitan District Commission*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

704.	For maintenance of Wellington bridge, a sum not exceeding ninety-three hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-three . . . . .	9,300 00
705.	For maintenance of boulevards and parkways, a sum not exceeding two hundred thirty-seven thousand six hundred dollars, the same to be in addition to the amount appropriated in item six hundred and seventy-nine . . . . .	237,600 00
706.	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty . . . . .	50,000 00
707.	For the construction of a certain parkway or boulevard along the southerly side of the Charles river basin, as authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-two, and	

Item	to be in addition to any amount heretofore appropriated for the purpose . . . . .	\$100,000 00
708.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding twelve thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one .	12,500 00

Chapter 386, Acts of 1929, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows: —

*Service of Special Legislative Investigations*

30h.	For expenses of an investigation by an unpaid special commission as to what measures should be taken to promote the abolition of grade crossings in the commonwealth, as authorized by chapter thirty of the resolves of the present year, a sum not exceeding two thousand dollars . . . . .	2,000 00
30l.	For expenses of an investigation by an unpaid special commission relative to compulsory automobile liability insurance, as authorized by chapter forty of the resolves of the present year, a sum not exceeding ten thousand dollars . . . . .	10,000 00
136a.	For expenses to be incurred by the department of public works in moving and relocating, upon such site as is fixed by the city of Boston, the hangars and other buildings located at the airport in East Boston and now utilized by the aviation units of the Massachusetts National Guard, as authorized by chapter twenty-four of the resolves of the present year, a sum not exceeding twenty-two thousand dollars . . .	22,000 00

*Service of the Department of Public Works*

Functions of the department relating to highways:

634.	For the construction and repair of town and county ways, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . .	25,000 00
639a.	For the construction and reconstruction of certain highways, as authorized by chapter three hundred and sixty-four of the acts of the present year, a sum not exceeding forty-five thousand nine hundred dollars, to be paid from the Highway Fund . . . . .	45,900 00

Registration of Motor Vehicles:

640.	For personal services, a sum not exceeding fifteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . .	15,000 00
641.	For services other than personal, including travelling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding ten thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . .	10,000 00



Functions of the department relating to waterways  
and public lands:

652.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding twenty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the port of Boston receipts . . .	\$20,000 00
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Specials:

656a.	For dredging Commercial Point channel, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding twenty-eight thousand one hundred and twenty-five dollars, to be paid from the Port of Boston receipts . . . . .	28,125 00
656b.	For further investigation by an unpaid special commission relative to the filling of navigable waters in a part of Fort Point channel and South bay, as authorized by chapter forty-eight of the resolves of the present year, a sum not exceeding seventy-five hundred dollars, one half of which is to be assessed upon the city of Boston . . . . .	7,500 00

*Metropolitan District Commission (Highway Fund)*

The following five items are to be paid from the Highway Fund:

681.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding one thousand dollars, representing the state's portion or one half of the estimated cost, and to be in addition to any amount heretofore appropriated for the purpose . . . . .	1,000 00
683.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding sixteen hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . . .	1,600 00
683a.	For certain dredging, to be done by the department of public works, on account of the Old Colony boulevard, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding fifty-nine thousand six hundred eighty-seven dollars and fifty cents . . . . .	59,687 50
683b.	For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of the present year, a sum not exceeding seventy-nine thousand five hundred dollars . . . . .	79,500 00
683c.	For the taking of certain land and for filling for a certain boulevard in the town of Brookline and the city of Newton, as authorized by chapter three hundred and fifty-eight of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars . . .	12,500 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

*Metropolitan District Commission*

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

700a.	For repairs and further shore protection at the Lynn Beach reservation, a sum not exceeding ten thousand dollars, to be assessed upon the metropolitan parks district . . . . .	\$10,000 00
704.	For maintenance of Wellington bridge, a sum not exceeding forty-eight hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-three and to be in addition to any amount heretofore appropriated for the purpose . . . . .	4,800 00
706b.	For certain dredging, to be done by the department of public works, on account of the Old Colony boulevard, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding fifty-nine thousand six hundred eighty-seven dollars and fifty cents, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>a</i> . . . . .	59,687 50
706c.	For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of the present year, a sum not exceeding seventy-nine thousand five hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>b</i> . . . . .	79,500 00
706d.	For the taking of certain land for filling for a certain boulevard in the town of Brookline and the city of Newton, as authorized by chapter three hundred and fifty-eight of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>c</i> . . . . .	12,500 00
706e.	For the construction and reconstruction of certain highways by the department of public works, as authorized by chapter three hundred and sixty-four of the acts of the present year, a sum not exceeding forty-five thousand nine hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and thirty-nine <i>a</i> . . . . .	45,900 00
708.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding one thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one . . . . .	1,000 00
710a.	For an investigation by an unpaid special commission of the general subject of the discharge of sewage into Boston harbor, as authorized by chapter twenty-nine of the resolves of the present year, a sum not exceeding twenty thousand dollars, the cost to be assessed in accordance with said resolve . . . . .	20,000 00



Item

## OTHER MISCELLANEOUS

*Service of the Department of Public Works*

636. For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund . . . . \$35,000 00

*Service of the Metropolitan District Commission (Highway Fund)*

- 683d. For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of the present year, a sum not exceeding fifty thousand dollars, to be paid from the Highway Fund . . . . 50,000 00
- 683e. For certain expenses on account of the construction of the northern artery as finally determined by chapter three hundred and eighty-two of the acts of the present year, a sum not exceeding two hundred sixty-two thousand five hundred dollars, to be paid from the Highway Fund . . . . 262,500 00

*Metropolitan District Commission*

- 706f. For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of the present year, a sum not exceeding fifty thousand dollars, to be assessed upon the cities and towns in the metropolitan parks district in accordance with their taxable valuations . . . . 50,000 00
- 706g. For certain expenses on account of the construction of the northern artery as finally determined by chapter three hundred and eighty-two of the acts of the present year, a sum not exceeding two hundred and fifty thousand dollars, to be assessed upon the cities and towns in the metropolitan parks district in accordance with their taxable valuations . . . . 250,000 00

SECTION 3. The following amendments and changes are hereby made in chapter one hundred and forty-six of the acts of the present year, together with certain other changes and adjustments: —

*Department of Public Works*

The department of public works is hereby authorized, in making settlement of a claim of the Lane Construction Company, to charge the same to item 638.

*Metropolitan District Commission*

Appropriations made in chapter three hundred and forty-three of the acts of nineteen hundred and twenty-seven, for the construction of a boulevard from Black's Creek bridge to Sea street in Quincy, in item 682a and 706a, are hereby reappropriated.

FINANCIAL STATEMENTS  
SUMMARY OF INCOME  
YEAR ENDING Nov. 30, 1929

Highway Fund  
*Ch. 288, Acts of 1925*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . . . .	\$7,348,384 88	
Gasoline tax, gross . . . . .	7,531,189 05	
Contributions for highways and assessments (G. L., Ch. 81) . . . . .	1,176,321 71	
Appropriation balances of previous years reverting . . . . .	41,536 15	
Reimbursement for repairs to guard rails . . . . .	12,324 01	
Miscellaneous receipts . . . . .	2,070 34	
Contributions and refunds . . . . .	58,830 85	
		<hr/>
		\$16,170,656 99

Port of Boston Fund  
*Ch. 91, General Laws*

Rent (leases and permits) . . . . .	\$204,191 50	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor) . . . . .	1,860 92	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.) . . . . .	181,904 23	
Use of Commonwealth Pier No. 1 (rentals, etc.) . . . . .	309 70	
Use of Hayward Creek property (rentals) . . . . .	225 00	
Revenue from permits for dumping dredged material at receiving basins . . . . .	4,096 38	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor . . . . .	37,791 30	
Telephone pay station receipts . . . . .	98 97	
Sales of land, South Boston . . . . .	5,206 19	
Sale of Boston Harbor maps . . . . .	34 50	
Sundries . . . . .	41 59	
		<hr/>
		\$435,760 28

Department Income  
*(Ordinary Revenue)*

Reimbursement for services (heating D Street Building) . . . . .	\$832 00	
Sales (specifications and plans for contracts) . . . . .	891 00	
Interest on bank accounts . . . . .	2,122 17	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925) . . . . .	1,094 27	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor . . . . .	8,992 68	
Certified copying charges . . . . .	153 00	
Sale of Atlas sheets and miscellaneous plans . . . . .	817 20	
Use of Province Lands (§ 25, C. 91, G. L.) . . . . .	369 40	
Permits for advertising signs . . . . .	17,495 13	
Use of New Bedford State Pier . . . . .	8,272 75	
		<hr/>
		\$41,039 60

Improvement of Rivers and Harbors Trust  
*Sections 11, 29, ch. 91, Gen. Laws*

Contributions from towns, individuals or others . . . . .	\$95,000 15	
		<hr/>
		\$95,000 15



Highway Trust  
(Section 30, ch. 81, Gen. Laws)

Federal Aid (reimbursement from U. S. Government)	\$860,561 39	
		\$860,561 39
Total		\$17,603,018 41

SUMMARY OF EXPENDITURES RELATING TO HIGHWAYS

The expenditures by the Department for highways under the General Laws and other acts and chapters 146 and 386, Acts of 1929, making appropriations therefor, during the fiscal year ending Nov. 30, 1929, were as follows: —

For construction of State highways, under chapter 81, General Laws	\$2,718,497 63
For maintenance and repair of State Highways, under section 13, chapter 81, General Laws	6,851,202 73
For construction and repair of town and county ways, under section 34, chapter 90, General Laws, as amended	2,049,085 91
For highways in the five Western Counties under chapter 221, General Acts of 1915 and chapter 572, Acts of 1920	1,626 29
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws, as amended	918,923 17
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925, and section 4, chapter 369 and chapter 398, Acts of 1926	97,932 69
For administering the law relative to advertising signs near highways	14,503 20
For the construction of the Cambridge Artery, under chapter 366, Acts of 1928	416,175 54
For the construction of a public highway along the shores of Dorchester Bay, under chapter 259, Acts of 1928	43,360 49
For the construction and improvement of certain ways in the city of Malden, and the towns of Braintree, Weymouth and Hingham, under chapter 364, Acts of 1929	166,111 56
For the refund of Southern Artery Betterment Assessments	80,417 34
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912	5,144 53
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street in Fall River, under chapter 717, Acts of 1912	12,285 01
For the suppression of gypsy and brown-tail moths on State highways	14,823 47
For general expenses	86,947 62
Total	\$13,477,037 18

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,342,815 09
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General expenses	\$50,150 16
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*Boston Harbor:*

Maintenance and operation, Commonwealth Pier 1, East Boston	8,000 00
Maintenance and operation, Commonwealth Pier 5, South Boston	110,123 82
Maintenance of property	136,564 65
Dredging and filling	86,014 45
Streets, piers and railroads	47,565 99

P.D. 54	15
Repairs to sea wall, Castle Island . . . . .	\$3,024 00
Dredging Savin Hill Bay . . . . .	147,500 00
Boston Harbor investigation . . . . .	20,000 00
Moving hangars at airport, East Boston . . . . .	22,000 00

*Outside of Boston Harbor:*

Improvement of rivers and harbors . . . . .	215,973 01
Fort Point Channel investigation . . . . .	1,459 77
Repairing damages to shore . . . . .	49,700 74
Maintenance, New Bedford State Pier . . . . .	5,000 00
Sea wall, Winthrop . . . . .	24 77
Expenses of province lands . . . . .	5,000 00
Expenses of Plymouth property . . . . .	5,426 35
Flood damage repairs, Connecticut and Hoosac rivers . . . . .	22,642 18
Angle Tree monument . . . . .	123 12
Access to great ponds . . . . .	4 20
Topographical survey . . . . .	1,000 00
Stream gauging . . . . .	4,000 00
Surveying town boundaries . . . . .	1,000 00
Locating state boundaries . . . . .	1,000 00
Compensation for services of dumping inspectors . . . . .	5,015 81

Total . . . . .	\$646,168 31
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RELATING TO HIGHWAYS

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$3,415,198.47 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 24 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 61 cases; on the matter of outdoor advertising in 7 cases; on the matter of special regulations for motor vehicles in North Andover, Somerville, Tyngsborough, Winchester and West Springfield; on the appeal from the action taken by the Registrar of Motor Vehicles prohibiting flying for commercial purposes from an airport in Grafton; on the disposition of minor offences under the motor vehicle laws; and on traffic regulations.

Petitions were received and contracts signed during the year, as follows: —

	Petitions	Contracts
State highways . . . . .	14	47
Work under section 34, chapter 90, General Laws, as amended . . . . .	82	305
Work under section 26, chapter 81, General Laws, as amended . . . . .	168	168
Work under special acts . . . . .	—	4
Totals . . . . .	264	524



GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK  
DURING THE YEAR

*State Highways.*—During the year ending Nov. 30, 1929, the Department completed work on about 56.434 miles of State highway, portions of which were laid out in 1928. Construction was commenced, but not completed, on about 0.8 miles of road in 2 towns. Layouts were made of 29.673 miles of State highway in 17 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 11.276 miles of State highway were discontinued or abandoned. The total length of State highways laid out to the end of the year was 1,627.505 miles.

*Surveys, Plans and Estimates.*—During the year preliminary surveys, plans and estimates were made as follows:

*For State Highway Construction.*—Preliminary surveys in 20 towns, 37.066 miles; plans in 19 towns, 33.622 miles; preliminary estimates in 13 towns, 34.796 miles; lines and grades in 18 towns, 33.099 miles; and final surveys and estimates in 14 towns, 30.829 miles.

*For State Highway Reconstruction and Resurfacing.*—Preliminary surveys in 58 towns, 104.65 miles; plans in 60 towns, 105.605 miles; preliminary estimates in 50 towns, 88.671 miles; lines and grades in 38 towns, 65.659 miles; final surveys and estimates in 33 towns, 53.951 miles.

Under section 34 of chapter 90 of the General Laws as amended:—Preliminary surveys in 167 towns, 188.499 miles; plans in 144 towns, 171.536 miles; preliminary estimates in 100 towns, 104.855 miles; lines and grades in 187 towns, 163.176 miles; final surveys and estimates in 61 towns, 53.247 miles.

Under chapter 364, Resolves of 1929. Preliminary surveys and plans in 1 city, 1.549 miles; preliminary estimates in 1 city and 3 towns, 7.518 miles; lines and grades in 1 city and 3 towns, 7.518 miles.

Under chapter 259, Acts of 1928. Preliminary surveys, plans and estimates in 1 city, 0.379 miles; lines and grades in 1 city, 0.379 miles.

Under chapter 366, Acts of 1928. Preliminary plans and estimates in 1 city, 1.736 miles; lines and grades in 1 city, 1.736 miles.

*For Roads to be Constructed by Towns.*—Preliminary surveys in 6 towns, 4.123 miles; preliminary estimates in 4 towns, 2.625 miles; plans in 5 towns, 3.971 miles. Lines and grades in 7 towns, 3.246 miles; final survey in 1 town, 0.28 miles.

*State Highway Reconnaissance.*—Surveys in 16 towns, 30 miles.

*Chapter 90 Reconnaissance.*—Surveys in 6 towns, 8 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 5 towns.

*Roads Constructed in 1928.*—Construction has been completed on 56.434 miles of State highway, 158.925 miles of highways under the provisions of section 34 of chapter 90 of the General Laws, as amended, and 4.139 miles of highways under the provisions of special acts, making a total of 219.498 miles completed during the year.

Of the above roads completed this year 30.783 miles were of gravel; 14.185 miles were of bituminous concrete; 121.603 miles were of bituminous macadam; 10.112 miles were of reinforced concrete; 41.480 miles were of gravel with a bituminous treatment, 0.682 miles were of earth, 0.653 miles were of waterbound macadam with a bituminous treatment.

*Resurfacing, Reconstruction and Widening.*—During the year 2.078 miles of State highway were widened but not resurfaced and 99.984 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 81.572 miles were of bituminous macadam, 9.232 miles were of bituminous concrete, 7.545 miles were of reinforced concrete, and 1.635 miles were of dual type (reinforced concrete and bituminous macadam).

*Permits.*—There were 2,152 permits issued during the year for opening or occupying State highways for various purposes.

*Engineering Advice to Municipal Authorities.*—The Department furnished without charge, engineering advice to 20 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

*Approval of Specifications.*—The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 33 towns and cities.

*Approval of Bridge Plans.*—The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 10 towns and cities.

#### STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

**SELECTMEN OF MATTAPOISETT.**—Road extending from a point on County Street about one-half mile westerly of the New York, New Haven & Hartford Railroad crossing easterly for about one and nine-tenths miles to a point on the Marion Road. Received Dec. 18, 1929.

**MAYOR AND CITY COUNCIL OF GARDNER.**—Road locally known as West Broadway and as Templeton Street, extending from the junction of West Broadway and Conant Street to the dividing line between the city of Gardner and the town of Templeton. Received Feb. 21, 1929.

**SELECTMEN OF BOURNE.**—Road on the south side of the Cane Cod Canal, locally known as the County Road, extending from Eldredge's Corner through Sagamore to the dividing line between the towns of Bourne and Sandwich. Received March 23, 1929.

**SELECTMEN OF ERVING.**—Road locally known as the Northfield Farms Road, extending from the dividing line between the towns of Northfield and Erving to Forest Street. Received March 20, 1929.

**SELECTMEN OF LANESBOROUGH.**—Road extending from a point about one-half mile north of the Pittsfield line, over a new location easterly of the tracks of the Boston & Albany Railroad, to a point near the Cheshire line. Received March 20, 1929.

**SELECTMEN OF CHARLTON.**—Road extending from the dividing line between the towns of Oxford and Charlton southwesterly for about one mile. Received March 27, 1929.

**SELECTMEN OF HOLLAND.**—Road located in the extreme southeasterly corner of the town, extending from the dividing line between the towns of Sturbridge and Holland to the Connecticut line. Received March 27, 1929.

**SELECTMEN OF OXFORD.**—Road extending from the dividing line between the towns of Charlton and Oxford northeasterly for about six-tenths of a mile. Received March 27, 1929.

**SELECTMEN OF STURBRIDGE.**—Road extending from the section of State highway built in 1928, known as the Old Turnpike, to the dividing line between the towns of Sturbridge and Holland. Received March 27, 1929.

**SELECTMEN OF PROVINCETOWN.**—Road extending from a point at or near the southwesterly end of Commercial Street, over a new location through the Province Lands, to a point on the existing State highway leading to the Race Point Life Saving Station. Received April 5, 1929.

**SELECTMEN OF NORTON.**—Road extending from a point on Main Street near South Worcester Street westerly over a new location, to the dividing line between the town of Norton and the city of Attleboro. Received May 20, 1929.

**SELECTMEN OF MANCHESTER.**—Road locally known as Summer Street, extending from the dividing line between the town of Manchester and the city of



Gloucester to the junction of Summer, Sea and Washington streets, and road locally known as Bridge Street, extending from the junction of Bridge, Central, Pine and Bennett streets to the dividing line between the town of Manchester and the city of Beverly. Received June 6, 1929.

SELECTMEN OF BOURNE. — Road locally known as the County Road, on the south side of Cape Cod Canal, extending from Bourne Village to the dividing line between the towns of Bourne and Sandwich. Received October 4, 1929.

SELECTMEN OF CHESTER. — Road extending from a point on the Huntington Road west of the Boston and Albany Railroad underpass near the property of Carmina Dallesandro to a point on said road near the property of Charles Cooper. Received Nov. 26, 1929.

#### CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

##### *Plymouth*

Jan. 8, 1929, contract made with Coleman Brothers, Inc., of Boston, for reconstructing about 34,552 feet of State highway on Warren Avenue, the surface consisting of bituminous macadam for about 29,850 feet, and of bituminous concrete for about 4,702 feet. The proposal amounted to \$227,113.70. Work completed Oct. 5, 1929. Expenditure during 1929, \$206,832.29.

##### *Milford*

Jan. 8, 1929, contract made with G. Bonazzoli & Sons, of Hudson, for reconstructing about 9,452 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$63,821.95. Work completed Aug. 24, 1929. Expenditure during 1929, \$69,058.64.

##### *Lynnfield-Peabody-Danvers*

Jan. 8, 1929, contract made with Warren Brothers Roads Company, of Cambridge, for resurfacing and widening about 2,264 feet of State highway on the Newburyport Turnpike in Lynnfield, about 14,356 feet of State highway on the same road in Peabody, and about 10,300 feet of State highway on the same road in Danvers, the surface consisting of bituminous concrete on 17,658 feet, of bituminous macadam on 1,396 feet, and of reinforced cement concrete on 7,866 feet. The proposal amounted to \$188,520.27. Work completed Aug. 20, 1929. Expenditure during 1929, \$204,905.90.

##### *Florida-Savoy-Charlemont*

Jan. 22, 1929, contract made with D'Onfro Brothers, Inc., of Leominster, for reconstructing about 25,182 feet of State highway on the Mohawk Trail in Florida, about 9,492 feet of State highway on the same road in Savoy, and about 15,100 feet of State highway on the same road in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$451,721.75. Work about four-fifths completed. Expenditure during 1929, \$362,964.30.

##### *Millbury-Grafton*

Jan. 22, 1929, contract made with Hagan-Thibodeau Construction Co., Inc., of Eden Park, R. I., for reconstructing about 4,080 feet of State highway on the Worcester Road and Farnumsville Road in Millbury and about 19,368 feet of State highway on the same road in Grafton, the surface consisting of bituminous macadam. The proposal amounted to \$189,616.80. Work completed Sept. 28, 1929. Expenditure during 1929, \$202,138.11.

##### *Marion-Wareham*

Mar. 19, 1929, contract made with Charles I. Hosmer, of Greenfield, for reconstructing two bridges and the approaches thereto on about 3,600 feet of State highway, the surface over the bridges consisting of bituminous concrete, the surface on the balance of the road consisting of bituminous macadam. The

proposal amounted to \$176,950.40. Work about three-fourths completed. Expenditure during 1929, \$135,618.76.

#### *Barnstable*

Apr. 2, 1929, contract made with Ashley & Loring, of East Bridgewater, for reconstructing about 4,957 feet of State highway on the North County Road, the surface consisting of bituminous concrete. The proposal amounted to \$30,995.60. Work completed Aug. 27, 1929. Expenditure during 1929, \$34,219.27.

#### *Sunderland*

Apr. 2, 1929, contract made with the Kelleher Corporation, of Montague, for reconstructing about 1,310 feet of State highway on the Amherst Road, the surface consisting of bituminous macadam. The proposal amounted to \$8,825.50. Work completed May 14, 1929. Expenditure during 1929, \$9,285.73.

#### *Erving-Northfield*

Apr. 2, 1929, contract made with the Kelleher Corporation, of Montague, for constructing about 8,230 feet of State highway on the Northfield Farms Road in Erving, and about 8,309 feet of State highway on the same road in Northfield, the surface consisting of bituminous macadam. The proposal amounted to \$113,405.30. Work completed Aug. 3, 1929. Expenditure during 1929, \$126,757.97.

#### *Falmouth*

Apr. 2, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 9,300 feet of State highway on a new location, the surface consisting of bituminous concrete. The proposal amounted to \$56,897.40. Work completed Aug. 29, 1929. Expenditure during 1929, \$62,445.19.

#### *Lanesborough-New Ashford*

Apr. 2, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 6,811 feet of State highway on the Pittsfield Road in New Ashford, and about 17,538 feet of State highway on the same road in Lanesborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$240,813.50. Work completed Nov. 27, 1929. Expenditure during 1929, \$219,070.11.

#### *Mattapoisett*

Apr. 2, 1929, contract made with Watkins Brothers, of New Bedford, for constructing about 9,940 feet of State highway on Fairhaven Road, County Road, and new location, the surface consisting of bituminous macadam. The proposal amounted to \$78,822.70. Work practically completed. Expenditure during 1929, \$65,613.60.

#### *Holland-Sturbridge*

Apr. 9, 1929, contract made with the Waterbury Road Construction Company, Inc., of Mansfield Depot, Connecticut, for constructing about 498 feet of State highway on the Sturbridge Road in Holland, and about 34,738 feet of State highway on the same road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$344,974.00. Work practically completed. Expenditure during 1929, \$332,308.69.

#### *Kingston*

Apr. 9, 1929, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 12,260 feet of State highway on Main and Summer streets, the surface consisting of bituminous macadam. The proposal amounted to \$81,267.50. Work completed July 30, 1929. Expenditure during 1929, \$84,370.65.

#### *Chelsea*

Apr. 16, 1929, contract made with F. J. McCarthy Contracting Company, of Boston, for reconstructing about 5.064 feet of State highway on Eastern Avenue, the surface consisting of reinforced cement concrete with bituminous macadam



surfacing on each side of the concrete for about 3,535 feet. The proposal amounted to \$71,475.40. Work completed Aug. 10, 1929. Expenditure during 1929, \$76,722.69.

*Milford-Hopedale-Upton*

Apr. 16, 1929, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 9,316 feet of State highway on the Upton Road in Milford, about 1,121 feet of State highway on the same road in Hopedale, and about 12,840 feet of State highway on the same road in Upton, the surface consisting of bituminous macadam. The proposal amounted to \$237,663.25. Work practically completed. Expenditure during 1929, \$204,068.28.

*Charlton-Oxford*

Apr. 16, 1929, contract made with Carlo Bianchi & Company, Inc., of Framingham, for constructing about 5,342 feet of State highway on the Oxford Road in Charlton, and about 3,100 feet of State highway on the same road in Oxford, the surface consisting of bituminous macadam. The proposal amounted to \$78,498.90. Work completed Sept. 10, 1929. Expenditure during 1929, \$82,083.75.

*Lanesborough*

Apr. 16, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 9,200 feet of State highway on the North Adams-Pittsfield Road and on new location in Lanesborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$104,473.75. Work completed Nov. 27, 1929. Expenditure during 1929, \$88,865.65.

*Provincetown*

Apr. 23, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing 8,900 feet of State highway on Commercial Street and on new location in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$80,182.00. Work completed Oct. 25, 1929. Expenditure during 1929, \$70,334.64.

*Gloucester*

Apr. 23, 1929, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 9,529 feet of State highway on Western Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$101,341.60. Work completed Oct. 28, 1929. Expenditure during 1929, \$92,546.81.

*Gardner*

Apr. 30, 1929, contract made with H. and J. P. Green Company, Inc., of Worcester, for constructing about 8,600 feet of State highway on West Broadway in Gardner, the surface consisting of bituminous macadam. The proposal amounted to \$82,692.20. Work completed Oct. 21, 1929. Expenditure during 1929, \$66,920.16.

*Wrentham*

Apr. 30, 1929, contract made with T. J. Quinn & Son, of Ashton, R. I., for constructing about 13,751 feet of State highway on West Street in Wrentham, the surface consisting of bituminous macadam. The proposal amounted to \$90,272.00. Work completed Oct. 1, 1929. Expenditure during 1929, \$85,737.23.

*Framingham-Southborough*

Apr. 30, 1929, contract made with the Middlesex Construction Company, of Framingham, for reconstructing about 12,824 feet of State highway on Pleasant Street in Framingham and about 6,047 feet of State highway on the same road in Southborough, the surface consisting of bituminous macadam. The proposal amounted to \$121,409.50. Work completed Oct. 2, 1929. Expenditure during 1929, \$130,445.02.

*Erving*

May 7, 1929, contract made with Ralph E. Bull, of Fitchburg, for reconstructing about 24,178 feet of State highway on the Mohawk Trail, the surface consist-

ing of bituminous macadam. The proposal amounted to \$212,141.50. Work about three-fourths completed. Expenditure during 1929, \$163,785.70.

*Colrain-Shelburne*

May 14, 1929, contract made with Perini & Ampollini, of Plainville, for reconstructing about 11,377 feet of State highway on Main Street in Shelburne, and about 10,050 feet of State highway on the same road in Colrain, the surface consisting of bituminous macadam. The proposal amounted to \$126,619.10. Work completed Oct. 7, 1929. Expenditure during 1929, \$110,809.84.

*Rehoboth-Seekonk*

May 21, 1929, contract made with Joseph McCormick, of Seekonk, for reconstructing about 9,904 feet of State highway on the Providence Turnpike in Rehoboth, and about 14,554 feet of State highway on the same road in Seekonk, the surface consisting of reinforced cement concrete. The proposal amounted to \$232,992.46. Work completed Nov. 5, 1929. Expenditure during 1929, \$219,761.30.

*Attleboro-Norton-Mansfield*

June 4, 1929, contract made with Arute Brothers, Inc., of New Britain, Connecticut, for constructing and reconstructing about 3,939 feet of State highway on Pleasant Street, Attleboro, about 18,547 feet of State highway on Main Street, Norton, about 7,400 feet of State highway on South Main Street, Mansfield, and about 9,865 feet of State highway on Mansfield Avenue, Norton, the surface consisting of bituminous macadam. The proposal amounted to \$275,090.58. Work completed Oct. 22, 1929. Expenditure during 1929, \$243,693.87.

*Amesbury*

June 18, 1929, contract made with John J. Watkins, of Amesbury, for surfacing about 850 feet of State highway on Macy Street, the surface consisting of bituminous macadam. The proposal amounted to \$3,385.00. Work completed July 23, 1929. Expenditure during 1929, \$4,361.60.

*Charlton-Sturbridge*

June 18, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for surfacing about 13,823 feet of State highway on the Brimfield Road in Sturbridge, and about 15,870 feet of State highway on the same road in Charlton, the surface consisting of bituminous macadam. The proposal amounted to \$101,488.00. Work completed Nov. 2, 1929. Expenditure during 1929, \$83,350.69.

*Gloucester*

June 18, 1929, contract made with Welch & Moynihan Co., of Salem, for constructing about 3,970 feet of State highway on Western Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$32,890.00. Work completed Nov. 15, 1929. Expenditure during 1929, \$34,228.20.

*Greenfield*

June 25, 1929, contract made with Kelleher Corporation, of Montague, for reconstructing about 8,600 feet of State highway on the Bernardston Road in Greenfield, the surface consisting of bituminous macadam. The proposal amounted to \$53,072.75. Work completed Oct. 2, 1929. Expenditure during 1929, \$58,408.63.

*Yarmouth*

July 9, 1929, contract made with Washburn & Sheridan Construction Company, of Taunton, for reconstructing about 700 feet of State highway on South Main Street in Yarmouth, the surface consisting of bituminous concrete. The proposal amounted to \$3,879.00. Work completed Aug. 23, 1929. Expenditure during 1929, \$4,281.41.

*North Andover*

July 23, 1929, contract made with Patrick J. Holland, of Lawrence, for reconstructing about 11,234 feet of State highway on the Salem Turnpike in North



Andover, the surface consisting of reinforced cement concrete. The proposal amounted to \$99,509.00. Work practically completed. Expenditure during 1929, \$101,760.68.

*Dennis*

Aug. 13, 1929, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 17,120 feet of State highway on the South County Road in Dennis, the surface consisting of bituminous concrete. The proposal amounted to \$76,136.00. Work about two-thirds completed. Expenditure during 1929, \$54,581.03.

*Wilbraham*

Aug. 27, 1929, contract made with the Dracut Construction Company, of Dracut, for reconstructing about 8,633 feet of State highway on the Springfield-Worcester Road in Wilbraham, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$104,179.50. Work about four-fifths completed. Expenditure during 1929, \$80,631.42.

*Fall River-Somerset*

Sept. 3, 1929, contract made with the Sherry Construction Co., Inc., of Fall River, for strengthening floor system and resurfacing roadway on Brightman Street Bridge over the Taunton River between the city of Fall River and the town of Somerset, the surface consisting of bituminous concrete. The proposal amounted to \$53,981.20. Work about nine-tenths completed. Expenditure during 1929, \$42,817.38.

*Millbury*

Sept. 17, 1929, contract made with Charles E. Horne, of Millbury, for widening about 530 feet of State highway on Main Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$7,274.50. Work completed Oct. 25, 1929. Expenditure during 1929, \$5,515.10.

*Leominster*

Sept. 10, 1929, contract made with the Fitchburg Concrete Construction Co., of Fitchburg, for resurfacing and widening about 1,926 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$9,100.00. Work practically completed. Expenditure during 1929, \$7,047.65.

*Danvers-Topsfield-Ipswich*

Sept. 17, 1929, contract made with the Lawton Construction Co., of Providence, R. I., for resurfacing and widening about 7,841 feet of State highway on the Newburyport Turnpike in Danvers, about 24,798 feet of State highway on the same road in Topsfield, and about 6,850 feet of State highway on the same road in Ipswich, the surface consisting of bituminous macadam. The proposal amounted to \$312,028.90. Work about three-tenths completed. Expenditure during 1929, \$99,355.77.

*Chester*

Sept. 17, 1929, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 22,322 feet of State highway on the Becket Road, the contract including four bridges, the surface of the roadway and over three bridges consisting of bituminous macadam, the surface over one bridge consisting of bituminous concrete. The proposal amounted to \$310,036.25. Work about one-sixth completed. Expenditure during 1929, \$49,103.62.

*Newbury*

Oct. 1, 1929, contract made with Merritt-Chapman & Scott Corporation, of New York, for constructing a bridge and approaches on about 1,600 feet of State highway on High Street in Newbury, the surface over the bridge consisting of bituminous concrete, and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$262,954.40. Work just commenced. Expenditure during 1929, \$2,793.78.

*Sterling*

Oct. 8, 1929, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 1,805 feet of State highway on the Worcester Road in Sterling, the surface consisting of bituminous macadam. The proposal amounted to \$9,952.00. Work practically completed. Expenditure during 1929, \$8,540.15.

*Newton*

Oct. 8, 1929, contract made with Raimo & Panakio, of Lynn, for reconstructing about 5,450 feet of State highway on Needham Street and Winchester Street in Newton, the surface consisting of bituminous macadam. The proposal amounted to \$33,798.20. Work just commenced. Expenditure during 1929, \$4,762.12.

*Dedham*

Oct. 29, 1929, contract made with Perini & Ampollini, of Athol, for resurfacing and widening about 6,674 feet of State highway on Bridge Street and Ames Street in Dedham, the surface consisting of bituminous macadam. The proposal amounted to \$58,313.50. Work just commenced. Expenditure during 1929, \$5,933.00.

*Provincetown*

Nov. 20, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 10,761 feet of State highway on Province Lands Road in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$87,724.40. Work just commenced. Expenditure during 1929, \$701.25.

*Lynn*

Nov. 26, 1929, contract made with D. Cerulli & Son, of Boston, for resurfacing and widening about 10,600 feet of State highway on Lynnfield Street in Lynn, the surface consisting of bituminous macadam. The proposal amounted to \$49,919.00. Work just commenced. Expenditure during 1929, \$298.52.

*Hadley*

Nov. 26, 1929, contract made with Warner Bros. & Goodwin, Inc., of Sunderland, for reconstructing about 14,057 feet of State highway on the Amherst Road in Hadley, the surface consisting of bituminous macadam. The proposal amounted to \$60,608.40. Work not commenced.

## EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$204,195.09	Hampden, \$221,816.39
Berkshire, \$655,533.86	Hampshire, \$82,238.60
Bristol, \$173,405.18	Norfolk, \$141,496.76
Dukes, \$1,577.02	Plymouth, \$92,006.32
Essex, \$85,957.67	Worcester, \$866,775.09
Franklin, \$193,495.65	Total, \$2,718,497.63

Details of the foregoing expenditures follow: —

*Barnstable County.* — Falmouth, \$122,873.51; Provincetown, \$81,321.58.

*Berkshire County.* — Becket, \$57,698.62; Florida, \$35,360.11; Great Barrington, \$1,865.79; Lanesborough, \$284,510.88; New Ashford, \$68,100.85; Otis, \$2,044.45; Richmond, \$66,000.98; Sandisfield, \$97,398.91; West Stockbridge, \$42,553.27.

*Bristol County.* — Mansfield, \$52,595.06; Norton, \$118,373.97; Swansea, \$561.36; Westport, \$1,874.79.

*Dukes County.* — Gay Head, \$1,577.02.

*Essex County.* — Amesbury, \$34,581.19; Danvers, \$87.01; Gloucester, \$38,836.12; Groveland, \$4,066.67; Newbury, \$8,299.67; Topsfield, \$87.01.

*Franklin County.* — Bernardston, \$1,731.05; Colrain, \$14,745.24; Deerfield, \$20,337.49; Erving, \$69,891.75; Gill, \$1,845.51; Northfield, \$84,944.61.



*Hampden County.*—Brinfield, \$128,658.61; Chester, \$16,549.35; Holland, \$3,929.57; Palmer, \$56,786.60; Tolland, \$12,780.73; West Springfield, \$3,111.53.  
*Hampshire County.*—Easthampton, \$82,238.60.  
*Norfolk County.*—Dedham, \$42,607.07; Wrentham, \$98,889.69.  
*Plymouth County.*—Mattapoisett, \$82,398.40; Plymouth, \$9,607.92.  
*Worcester County.*—Charlton, \$169,837.51; Gardner, \$77,977.75; Oxford, \$31,728.32; Sturbridge, \$461,727.14; Templeton, \$125,504.37.

#### MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, chapter 81, General Laws, and chapter 146, Acts of 1929)

The expenditures during the year in the various counties were:—

Barnstable, \$260,213.85	Hampshire, \$205,161.57
Berkshire, \$743,835.94	Middlesex, \$437,930.13
Bristol, \$601,954.28	Nantucket, \$305.65
Dukes, \$6,580.73	Norfolk, \$163,004.80
Essex, \$895,870.60	Plymouth, \$630,247.47
Franklin, \$679,400.25	Suffolk, \$106,057.45
Hampden, \$371,993.41	Worcester, \$1,519,232.81
	*Total, \$6,621,788.94

Details of the foregoing expenditures follow:—

*Barnstable County.*—Barnstable, \$63,606.15; Bourne, \$12,725.62; Brewster, \$3,349.10; Chatham, \$1,937.63; Dennis, \$69,827.20; Eastham, \$2,234.32; Falmouth, \$71,617.28; Harwich, \$1,507.22; Mashpee, \$11,449.93; Orleans, \$1,385.26; Provincetown, \$1,628.60; Sandwich, \$5,152.82; Truro, \$2,803.31; Wellfleet, \$2,347.87; Yarmouth, \$8,641.54.

*Berkshire County.*—Adams, \$2,443.97; Becket, \$22,507.47; Cheshire, \$6,087.40; Clarksburg, \$13,866.25; Dalton, \$3,005.05; Egremont, \$5,717.20; Florida, \$284,664.85; Great Barrington, \$13,274.24; Hancock, \$11,497.83; Hinsdale, \$3,028.23; Lanesboro, \$2,912.87; Lee, \$6,781.53; Lenox, \$4,957.20; New Ashford, \$1,501.54; New Marlboro, \$225.69; North Adams, \$184,145.99; Otis, \$4,836.57; Pittsfield, \$11,471.11; Richmond, \$7,172.16; Sandisfield, \$2,616.01; Savoy, \$107,739.28; Sheffield, \$7,642.15; Stockbridge, \$5,148.03; Washington, \$2,332.17; West Stockbridge, \$280.85; Williamstown, \$21,256.03; Windsor, \$6,724.27.

*Bristol County.*—Acushnet, \$4,205.07; Attleboro, \$32,541.63; Berkeley, \$637.47; Dartmouth, \$6,884.44; Dighton, \$18,061.87; Easton, \$5,562.29; Fairhaven, \$3,012.50; Fall River, \$26,004.34; Freetown, \$4,406.61; Mansfield, \$8,853.26; North Attleborough, \$2,265.73; Norton, \$98,148.43; Raynham, \$4,262.54; Rehoboth, \$108,055.05; Seekonk, \$166,491.36; Somerset, \$44,682.56; Swansea, \$22,183.25; Taunton, \$15,443.56; Westport, \$30,252.32.

*Dukes County.*—Chilmark, \$1,498.68; Edgartown, \$1,036.29; Gay Head, \$1,007.28; Oak Bluffs, \$602.40; Tisbury, \$681.34; West Tisbury, \$1,754.74.

*Essex County.*—Amesbury, \$10,827.87; Andover, \$2,574.25; Beverly, \$6,203.37; Danvers, \$118,474.00; Essex, \$2,478.24; Gloucester, \$116,305.44; Groveland, \$16,949.69; Hamilton, \$4,011.60; Haverhill, \$2,693.64; Ipswich, \$34,106.49; Lawrence, \$1,194.22; Lynn, \$19,378.05; Lynnfield, \$33,705.80; Merrimac, \$1,144.04; Methuen, \$7,109.24; Middleton, \$5,180.46; Newbury, \$10,158.79; Newburyport, \$14,334.62; North Andover, \$135,482.23; Peabody, \$129,027.64; Rockport, \$616.56; Rowley, \$5,851.96; Salem, \$87,279.72; Salisbury, \$12,211.82; Saugus, \$31,818.42; Swampscott, \$2,930.39; Topsfield, \$76,928.70; Wenham, \$2,154.10; West Newbury, \$4,739.25.

*Franklin County.*—Ashfield, \$3,498.92; Bernardston, \$19,154.17; Buckland, \$6,370.19; Charlemont, \$138,159.37; Colrain, \$69,082.06; Conway, \$5,063.68; Deerfield, \$40,886.63; Erving, \$201,686.81; Gill, \$60.47; Greenfield, \$76,089.43; Montague, \$4,020.23; Northfield, \$11,194.71; Orange, \$2,537.31; Shelburne, \$82,009.94; Sunderland, \$15,693.23; Whately, \$3,893.10.

*Hampden County.*—Agawam, \$6,852.28; Blandford, \$2,323.97; Brimfield, \$3,690.02; Chester, \$50,704.94; Chicopee, \$23,159.83; East Longmeadow, \$1,843.29; Holyoke, \$4,980.74; Monson, \$10,662.65; Palmer, \$19,714.15; Russell,

\* In addition to this figure, the amount of \$229,413.89 was expended for snow removal.

\$126,078.03; Southwick, \$4,191.44; Tolland, \$3.37; Wales, \$2,741.18; West Springfield, \$2,787.40; Westfield, \$4,343.00; Wilbraham, \$107,917.12.

*Hampshire County.*—Amherst, \$20,058.23; Belchertown, \$4,687.34; Cummington, \$11,580.49; Easthampton, \$15,370.83; Goshen, \$4,924.74; Granby, \$6,144.81; Hadley, \$6,389.73; Hatfield, \$2,328.81; Huntington, \$71,140.83; Northampton, \$37,672.35; South Hadley, \$6,524.96; Southampton, \$2,614.34; Ware, \$12,133.41; Williamsburg, \$3,590.70.

*Middlesex County.*—Acton, \$3,834.14; Arlington, \$1,991.28; Ashby, \$5,843.14; Ashland, \$2,339.96; Ayer, \$13,224.89; Bedford, \$1,882.73; Billerica, \$6,372.27; Boxborough, \$3,600.78; Burlington, \$1,679.85; Chelmsford, \$2,550.13; Concord, \$4,303.36; Dracut, \$6,043.64; Framingham, \$101,676.14; Groton, \$6,661.13; Holliston, \$5,223.81; Hudson, \$1,647.59; Lexington, \$5,875.46; Lincoln, \$953.59; Littleton, \$6,824.03; Lowell, \$2,229.17; Malden, \$41.52; Marlborough, \$32,817.39; Medford, \$1,063.68; Melrose, \$593.59; Natick, \$1,847.48; Newton, \$7,522.63; North Reading, \$1,870.17; Pepperell, \$133,923.57; Reading, \$7,674.03; Shirley, \$3,325.00; Somerville, \$936.27; Stoneham, \$1,584.84; Sudbury, \$5,197.67; Tewksbury, \$3,724.69; Townsend, \$23,448.98; Tyngsborough, \$2,844.34; Waltham, \$628.68; Watertown, \$3,763.03; Wayland, \$2,920.76; Westford, \$1,860.25; Weston, \$3,362.65; Wilmington, \$3,687.49; Winchester, \$1,188.23; Woburn, \$7,346.10.

*Nantucket County.*—Nantucket, \$305.65.

*Norfolk County.*—Avon, \$1,528.58; Bellingham, \$19,027.16; Braintree, \$10,932.50; Canton, \$5,768.13; Cohasset, \$865.92; Dedham, \$10,024.07; Dover, \$17,387.54; Foxborough, \$7,552.06; Franklin, \$17,719.83; Holbrook, \$5,339.92; Milton, \$8,161.43; Needham, \$6,408.21; Norfolk, \$940.35; Norwood, \$2,055.32; Plainville, \$1,809.32; Quincy, \$6,936.97; Randolph, \$3,181.82; Sharon, \$222.72; Stoughton, \$4,016.66; Walpole, \$2,754.47; Wellesley, \$734.20; Westwood, \$8,740.96; Weymouth, \$9,798.67; Wrentham, \$11,097.99.

*Plymouth County.*—Abington, \$16,781.59; Bridgewater, \$4,128.05; Brockton, \$2,131.19; Duxbury, \$1,301.31; East Bridgewater, \$813.90; Hanover, \$1,206.66; Hingham, \$10,211.87; Kingston, \$104,354.82; Lakeville, \$6,635.01; Marion, \$58,648.93; Marshfield, \$6,459.01; Mattapoisett, \$2,702.66; Middleborough, \$7,898.16; Norwell, \$1,308.19; Pembroke, \$1,003.64; Plymouth, \$276,278.69; Rochester, \$695.11; Rockland, \$3,424.90; Scituate, \$1,936.70; Wareham, \$119,687.16; West Bridgewater, \$1,020.52; Whitman, \$1,619.40.

*Suffolk County.*—Boston, \$2,983.05; Chelsea, \$95,002.59; Revere, \$8,071.81.

*Worcester County.*—Ashburnham, \$160,388.64; Athol, \$54,951.17; Auburn, \$5,824.64; Barre, \$16,533.90; Blackstone, \$1,047.48; Brookfield, \$865.67; Charlton, \$8,009.51; Douglas, \$1,577.00; Dudley, \$26,098.31; East Brookfield, \$1,900.70; Fitchburg, \$3,066.48; Gardner, \$10,358.49; Grafton, \$207,948.29; Hardwick, \$1,816.94; Harvard, \$4,169.44; Holden, \$17,326.74; Hopedale, \$22,390.83; Lancaster, \$1,018.85; Leicester, \$6,751.65; Leominster, \$16,128.93; Lunenburg, \$4,474.69; Mendon, \$4,441.79; Milford, \$167,897.99; Millbury, \$46,532.35; Millville, \$1,208.92; New Braintree, \$516.12; North Brookfield, \$1,650.09; Northboro, \$8,939.49; Northbridge, \$3,339.40; Oakham, \$1,635.62; Oxford, \$11,230.87; Paxton, \$3,137.55; Petersham, \$11,391.41; Phillipston, \$106,823.47; Princeton, \$1,727.12; Rutland, \$7,693.97; Shrewsbury, \$5,841.65; Southborough, \$61,756.67; Southbridge, \$779.93; Spencer, \$27,262.30; Sterling, \$20,046.72; Sturbridge, \$4,365.32; Sutton, \$5,316.28; Templeton, \$18,989.18; Upton, \$144,509.82; Uxbridge, \$14,563.09; Warren, \$4,334.35; Webster, \$2,635.58; West Boylston, \$23,611.66; West Brookfield, \$11,911.24; Westborough, \$2,365.99; Westminster, \$45,988.71; Winchendon, \$168,413.44; Worcester, \$5,726.37.

#### REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

(Section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927)

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months





For fiscal year ending June 30, 1919	.	.	.	.	.	.	\$958,145	15
For fiscal year ending June 30, 1920	.	.	.	.	.	.	1,400,078	27
For fiscal year ending June 30, 1921	.	.	.	.	.	.	1,472,788	83
For fiscal year ending June 30, 1922	.	.	.	.	.	.	1,096,176	04
For fiscal year ending June 30, 1923	.	.	.	.	.	.	730,784	03
For fiscal year ending June 30, 1924	.	.	.	.	.	.	950,448	62
For fiscal year ending June 30, 1925	.	.	.	.	.	.	1,089,806	22
For fiscal year ending June 30, 1926	.	.	.	.	.	.	1,099,891	00
For fiscal year ending June 30, 1927	.	.	.	.	.	.	1,089,055	00
For fiscal year ending June 30, 1928	.	.	.	.	.	.	1,089,100	00
For fiscal year ending June 30, 1929	.	.	.	.	.	.	1,088,808	00
For fiscal year ending June 30, 1930	.	.	.	.	.	.	1,090,077	00
Total	.	.	.	.	.	.	\$13,376,711	00

The total amount received by Massachusetts from 1916 to Nov 30, 1929, is \$9,578,839.55.

Projects to the number of 24 have been prepared in addition to those shown in the report of the Department of Public Works for 1928. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to Nov. 30, 1929, inclusive, is 682.967. The mileage in various counties is:—

Barnstable, 64.712 miles	Hampden, 47.807 miles
Berkshire, 92.605 miles	Hampshire, 41.329 miles
Bristol, 69.292 miles	Middlesex, 59.255 miles
Dukes, 3.117 miles	Norfolk, 38.599 miles
Essex, 62.037 miles	Plymouth, 63.009 miles
Franklin, 28.277 miles	Worcester, 112.928 miles

#### STATEMENT OF FEDERAL AID ROAD PROJECTS\* TO NOV. 30, 1929

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven . . . . .	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover . . . . .	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus . . . . .	1.162	11,620 00	11,620 00	Work completed.
4	Danvers . . . . .	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton . . . . .	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich . . . . .	1.818	10,678 02	10,678 02	Work completed.
7	Cummington . . . . .	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham . . . . .	7.016	90,074 51	90,074 51	Work completed.
9	Saugus . . . . .	3.122	65,472 27	65,472 27	Work completed.
10	Braintree . . . . .	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton . . . . .	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich . . . . .	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton . . . . .	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable . . . . .	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham . . . . .	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody . . . . .	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg . . . . .	2.797	55,940 00	55,940 00	Work completed.
19	Taunton . . . . .	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury . . . . .	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock . . . . .	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston . . . . .	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington . . . . .	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk . . . . .	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk . . . . .	2.756	41,340 00		Work completed.
25	Billerica . . . . .	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1 . . . . .	5.134	102,680 00	102,680 00	Work completed.
	Section 2 . . . . .	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham . . . . .	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A . . . . .	0.990	19,780 00	19,780 00	Work completed.
	Section B . . . . .	2.690	53,800 00	53,800 00	Work completed.
29	Ware . . . . .	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield . . . . .	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody . . . . .	1.107	22,140 00	22,140 00	Work completed.
32	Huntington . . . . .	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A . . . . .	2.182	43,640 00	43,640 00	Work completed.
	Section B . . . . .	1.624	25,847 25	25,847 25	Work completed.

\* All of these projects are now, or will be later, State highways.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
34	Dudley . . . . .	1.359	\$27,180 00	\$27,180 00	Work completed.
35	Haverhill-Methuen . . . . .	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A . . . . .	10.690	91,347 85	91,347 85	Work completed.
	Section B . . . . .	6.548	75,935 60	75,935 60	Work completed.
	Section C . . . . .	8.043	86,130 51	86,130 51	Work completed.
37	Egremont . . . . .	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers . . . . .	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford- Lanesborough:				
	Section A . . . . .	0.020	9,123 64	9,123 64	Work completed.
	Section B . . . . .	3.323	65,980 00	65,980 00	Work completed.
	Section C . . . . .	4.590	68,850 00		Work completed.
40	East Brookfield . . . . .	1.011	20,220 00	20,220 00	Work completed.
41	Ashby . . . . .	1.250	22,141 03	22,141 03	Work completed.
42	Washington . . . . .	2.291	45,820 00	45,820 00	Work completed.
43	Leicester . . . . .	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A . . . . .	1.494	29,880 00	29,880 00	Work completed.
	Section B . . . . .	1.479	50,183 37	50,183 37	Work completed.
	Section C . . . . .	3.780	82,915 42	82,915 42	Work completed.
45	Palmer:				
	Sections A and C . . . . .	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A . . . . .	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham . . . . .	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg . . . . .	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A . . . . .	1.959	39,180 00	39,180 00	Work completed.
	Section B . . . . .	2.504	50,080 00	50,080 00	Work completed.
52	Oxford . . . . .	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A . . . . .	0.890	17,800 00	17,800 00	Work completed.
	Section B . . . . .	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A . . . . .	0.829	16,580 00	16,580 00	Work completed.
	Section B . . . . .	2.691	53,820 00	53,820 00	Work completed.
55	Quincy . . . . .	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton . . . . .	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn . . . . .	3.042	59,131 31	59,131 31	Work completed.
58	Littleton . . . . .	1.345	26,900 00	26,900 00	Work completed.
59	Egremont . . . . .	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers . . . . .	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton . . . . .	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A . . . . .	3.009	60,180 00	60,180 00	Work completed.
	Section B . . . . .	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich . . . . .	4.489	89,780 00	89,780 00	Work completed.
64	Norwood . . . . .	1.065	21,300 00	21,300 00	Work completed.
65	North Adams . . . . .	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill . . . . .	2.657	53,049 24	53,049 24	Work completed.
70	Palmer . . . . .	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham . . . . .	1.846	36,940 00	36,940 00	Work completed.
72	Walpole . . . . .	3.078	61,560 00	61,560 00	Work completed.
73	Southwick . . . . .	6.879	111,757 95	111,757 95	Work completed.
74	Becket . . . . .	0.156	13,095 66	13,095 66	Work completed.
R74	Becket . . . . .	0.189	10,988 45		Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A . . . . .	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk . . . . .	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac . . . . .	1.020	20,397 73	20,397 73	Work completed.
78	Burlington . . . . .	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington . . . . .	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington . . . . .	0.028	10,098 38		Work completed.
80	Lee:				
	Section A . . . . .	0.909	18,180 00	18,180 00	Work completed.
	Section B . . . . .	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke . . . . .	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston . . . . .	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A . . . . .	1.033	20,660 00	20,660 00	Work completed.
	Section B . . . . .	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head . . . . .	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A . . . . .	1.056	21,120 00	21,120 00	Work completed.
	Section B . . . . .	0.038	5,429 50	5,429 50	Work completed.
88	Erving . . . . .	4.537	68,055 00		Work underway.
89	Easton:				
	Sections A and B . . . . .	3.540	70,800 00	70,800 00	Work completed.
	Section C . . . . .	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-E. Brookfield . . . . .	1.227	25,324 95	25,324 95	Work completed.
91	Lowell . . . . .	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham . . . . .	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield . . . . .	7.565	122,931 25	122,931 25	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
95	Westfield	0.148	\$12,677 08	\$12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	East Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee.	8.137	132,939 21		Work completed.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	84,084 87		Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00		PS & E Appr.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	54,052 37		Work completed.
135D	Russell-Huntington	3.670	55,050 00		Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	99,063 09		Work underway.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	69,410 72		Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00		Work completed.



STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
148A	Raynham . . . . .	1.657	\$24,855 00	\$24,855 00	Work completed.
148B	Raynham-Taunton . . . . .	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough . . . . .	5.586	83,790 00	83,790 00	Work completed.
150A	Littleton-Westford . . . . .	1.985	29,775 00	29,775 00	Work completed.
150B	Westford . . . . .	2.660	39,900 00	39,900 00	Work completed.
151A					
&B	Swansea-Somerset . . . . .	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth . . . . .	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth . . . . .	2.858	42,870 00	42,870 00	Work completed.
152C	Westport . . . . .	4.634	69,510 00		Work completed.
153A	Southampton-Easthampton . . . . .	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge . . . . .	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield . . . . .	0.549	8,235 00	8,235 00	Work completed.
156A	Orange . . . . .	1.058	15,870 00	15,870 00	Work completed.
157A	Sandisfield-Tolland . . . . .	0.644	34,803 50	34,803 50	Work completed.
R157					
A	Sandisfield-Tolland . . . . .	0.644	5,660 87		Work completed.
157B	Sandisfield . . . . .	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland . . . . .	3.038	45,570 00		Work completed.
158A	Dalton . . . . .	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea . . . . .	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk . . . . .	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea . . . . .	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge . . . . .	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater . . . . .	3.823	57,345 00	57,345 00	Work completed.
162A	Holliston . . . . .	3.315	49,725 00	49,725 00	Work completed.
162B	Milford . . . . .	1.790	26,850 00		Work completed.
163A	Amherst . . . . .	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst . . . . .	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon . . . . .	0.750	48,475 74	26,555 45	Work completed.
164B	Westminster-Ashburnham . . . . .	3.607	54,105 00		Work completed.
164C	Ashburnham . . . . .	3.776	56,640 00		Work completed.
164D	Winchendon . . . . .	2.826	42,390 00		Work completed.
165A	Winchendon . . . . .	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis . . . . .	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield . . . . .	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury . . . . .	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford . . . . .	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling . . . . .	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire . . . . .	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro . . . . .	1.742	26,130 00		Work completed.
174A	Marshfield . . . . .	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich . . . . .	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans . . . . .	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable . . . . .	0.927	13,905 00		Work completed.
176A	Plymouth . . . . .	5.032	70,543 35	70,543 35	Work completed.
177A	Chatham . . . . .	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans . . . . .	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis . . . . .	3.219	48,258 37		Work underway.
178A	Chelmsford . . . . .	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth . . . . .	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham . . . . .	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin . . . . .	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams . . . . .	2.818	42,270 00		Work completed.
181B	Florida . . . . .	2.736	41,040 00		Work completed.
181C	North Adams-Clarksburg . . . . .	3.362	50,430 00		Work completed.
181D	Florida-Savoy . . . . .	3.702	55,530 00		Work underway.
182A	Lunenburg . . . . .	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury . . . . .	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury . . . . .	1.329	45,345 32		Work completed.
184A	Charlton . . . . .	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge . . . . .	5.623	84,345 00		Work completed.
185A	Buckland . . . . .	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont . . . . .	2.433	36,495 00		Work underway.
186	Salisbury . . . . .	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham . . . . .	1.225	18,375 00	18,375 00	Work completed.
188A	Townsend . . . . .	3.813	57,195 00		Work completed.
188B	Pepperell-Groton . . . . .	3.368	50,520 00		Work completed.
189A	Marion-Wareham . . . . .	0.582	82,770 63		Work underway.
189B	Mattapoisett . . . . .	1.804	27,060 00		Work completed.
190A	Becket . . . . .	2.254	33,810 00		Work completed.
191A	Falmouth . . . . .	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth . . . . .	1.752	26,280 00		Work completed.
192A	Groveland . . . . .	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport . . . . .	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley . . . . .	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley . . . . .	2.662	31,715 99		PS&E Appr.
194A	Athol-Phillipston-Templeton . . . . .	4.738	71,070 00		Work underway.
195A	Mansfield-Norton . . . . .	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton . . . . .	2.617	39,255 00		Work completed.
196A	Millbury-Grafton . . . . .	4.440	66,600 00		Work completed.
197	Plymouth . . . . .	6.543	98,035 70		Work completed.
198A	Milford-Hopedale-Upton . . . . .	4.418	66,270 00		Work underway.
199A	Newbury . . . . .	0.303	163,208 90		Work underway.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Concluded*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
200A	Rehoboth . . . . .	1.875	\$28,125 00		Work completed.
201	Wilbraham . . . . .	1.530	22,950 00		Work underway.
203	Natick-Wellesley . . . . .	2.066	30,990 00		PS&E Appr.
Total . . . . .		682.967	\$11,994,512 71	\$9,578,839 55	

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

*Cities and Towns, Locality and Character of Structure*

- Becket — Washington Mountain Road over Brooker Hill Brook; one 20-foot span, reinforced concrete slab.
- Braintree — Plain Street over Monatiquot River; one 19-foot span, reinforced concrete beam.
- Cambridge — Alewife Brook Traffic Road, two bridges over Boston and Maine Railroad; over Fitchburg Division two 158-foot through truss spans with two 40-foot steel stringer approach spans; and over Central Massachusetts Division one 87-foot span through plate girder with two 40-foot steel stringer approach spans.
- Charlton — State highway over Little River, one 17-foot span, reinforced concrete beam.
- Chelmsford — Billerica Road over River Meadow Brook; one 17-foot span, reinforced concrete slab.
- Cheshire — Savoy Road over Dry Brook; one 46-foot span, reinforced concrete beam.
- Chester — Jacobs Ladder Road over branch of Boston and Albany Railroad; one 40-foot span, reinforced concrete slab.
- Colrain — Shelburne Falls Road over brook; one 20-foot span, reinforced concrete beam.
- Gardner — Templeton Road over Otter River; one 16-foot span, reinforced concrete beam.
- Grafton — Worcester Street over Sunny Brook; one 11-foot span, reinforced concrete slab.
- Hopedale — West Street over Mill River at Milford line; one 12-foot span, reinforced concrete slab.
- Ludlow — West Street over Fuller Brook; one 28-foot span, reinforced concrete beam.
- Marion — Wareham Road over Weweantic River at Wareham line; two 49.7-foot spans, reinforced concrete beam.
- Maynard — Russell Bridge over Assabet River at Stow Line; two 23-foot and two 22-foot spans, reinforced concrete pile trestle.
- Monson — State Avenue over Quaboag River at Palmer line; one 44-foot and two 38-foot spans, reinforced concrete beam.
- Newbury — Main Street, Byfield, over Parker River; one 15-foot span, reinforced concrete beam.
- Newbury — Shore Road over Parker River; five 60-foot spans, reinforced concrete beam.
- Newton — Washington Street over Charles River at Wellesley line; two 40-foot and one 46-foot spans, reinforced concrete arch, granite faced.
- Northfield — Northfield Farms Road over Four Mile Brook; one 18-foot span, reinforced concrete beam.
- Paxton — North Spencer Road over Turkey Hill Brook; one 13-foot span, reinforced concrete slab.



- Petersham — Phillipston Road over Swift River; one 19-foot span, reinforced concrete slab.
- Rehoboth — Taunton-Providence Road over Palmer River; one 15-foot span, reinforced concrete slab.
- Sterling — Princeton Road over Stillwater River; one 30-foot span, reinforced concrete beam.
- Sturbridge — Holland Road over Quinebaug River; six 20-foot spans, reinforced concrete pile trestle.
- Wareham — Marion Road over Weweantic River; one 48-foot and two 43-foot spans, reinforced concrete beam.
- Westfield — Holyoke Road over Hampden Pond; one 9.5-foot span, reinforced concrete slab.
- Weymouth — Columbian Street over New York, New Haven and Hartford Railroad; one 53.5-foot span, steel plate girder.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES  
COMPLETED IN 1929

*Cities and Towns, Locality and Character of Work*

- Andover — North Main Street over Shawsheen River; reinforced concrete extension of stone arch.
- Canton — Neponset Street over Canton River; reinforced concrete arch extension of stone arch.
- Charlemont — Mohawk Trail over Trout Brook; extension of reinforced concrete slab.
- Chester — Jacobs Ladder Road over Sanderson Brook; extension of reinforced concrete beam.
- Chester — Jacobs Ladder Road over branch of Walker Brook; reinforced concrete slab.
- Chester — Jacobs Ladder Road over Austin Brook; reinforced concrete slab extension of twin stone culvert.
- East Bridgewater — North Central Street over Matfield River; reinforced concrete beam extension of stone arch.
- Gardner — Templeton Road over Bents Pond and Travers Pond; extension of reinforced concrete beam.
- Gardner — Templeton Road over Wilder Brook; reinforced concrete slab extension.
- Gardner — Templeton Road over pond; reinforced concrete slab extension.
- Ludlow — Fuller Street over Stony Brook; reinforced concrete arch extension of stone arch.
- Medway — Main Street over Chicken Brook; reinforced concrete slab extension of stone arch.
- Plymouth — State highway over Beaver Dam Brook; reinforced concrete arch extension of stone arch.
- Rehoboth — Taunton-Providence Road over Palmer River; reinforced concrete slab extension of two stone arches.
- Seekonk — Taunton-Providence Road over Runnins River; reinforced concrete slab extension of reinforced concrete culvert.
- Warren — Brimfield Road over Tufts Brook; reinforced concrete slab extension.
- Wilbraham — Palmer-Springfield Road over Brook; reinforced concrete slab extension of stone arch.
- Williamstown — Pownal Road over Hoosic River; raising steel span at northerly abutment.

CONTEMPLATED BRIDGES AND STRUCTURES

*Plans, Studies or Estimates made*

*Cities and Towns, Locality and Character of Structure*

- Barre — State highway over Prince River; one 38-foot span, reinforced concrete beam.
- Bernardston — Northfield Road over Boston and Maine Railroad; one 41-foot and two 40-foot spans, reinforced concrete beam.

- Dalton — Windsor Road over Wahconah Brook; two 30-foot spans, reinforced concrete beam.
- Natick — West Central Street over Reservoir; repairs to two 5-foot spans and to two 7-foot spans, culverts.
- Newbury — Newburyport Turnpike over Parker River; one 38.5-foot, two 40.5-foot and one 42.5-foot spans, reinforced concrete beam extension of reinforced concrete beam.
- Newton — Western Artery at Weston line, Metropolitan Planning Division scheme; over Hobbs Brook, one 10-foot span, reinforced concrete slab; over Boston and Maine Railroad, Fitchburg Division, one 140-foot span, steel through truss; over Stony Brook, one 15-foot span, reinforced concrete slab; under Boston and Maine Railroad, Central Massachusetts Division, one 60-foot span, deck plate girder; over Charles River, one 160-foot span, steel arch and four approach spans.
- Oakham — Athol-Worcester Road over Pond; one 24-foot span, reinforced concrete beam extension of reinforced concrete beam.
- Oakham — Athol-Worcester Road over Brook; one 10-foot span, reinforced concrete arch extension of stone arch.
- Orange — Athol-Gardner Road over Mill Pond; extension of 16-foot span, reinforced concrete beam on northerly side.
- Orange — Athol-Gardner Road over Orcutt Brook; one 18-foot span, extension of reinforced concrete beam.
- Sandisfield — At New Boston Village over Farmington River; one 75-foot span, steel pony truss.
- Templeton — Athol-Gardner Road over Otter River; one 16-foot span, reinforced concrete slab extension of steel stringer.
- Tyngsborough — County Road over Merrimack River; one 550-foot span, steel through arch.
- Tyngsborough — County Road over Boston and Maine Railroad; one 65-foot span, steel girder.
- Weston — Central Avenue over Stony Brook at Waltham line; reconstruction of 2-span stone culvert with 15-foot span, reinforced concrete slab.
- Weston — Central Avenue over Boston and Maine Railroad, Fitchburg Division of Stony Brook Station; one 64-foot span, steel plate girder and two 35-foot approach spans, reinforced concrete beam.
- Williamstown — Williamstown-Pittsfield Road over Green River; one 41.9-foot span, reinforced concrete beam.
- Windsor — Berkshire Trail over Baldwin Brook; one 20-foot span, reinforced concrete beam.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns*

*Towns, Locality and Character of Work*

- Bellingham — Hartford Avenue over Charles River; examination, report and estimate for reinforced concrete slab.
- Berlin — Bridge Road over Assabet River; examination, report and estimates to replace 49.5-foot span, wrought iron pony truss.
- Billerica — Whipple Street over Shawsheen River at Wilmington line; examination and plans for 17-foot span, reinforced concrete slab.
- Chesterfield — At Huntington line over Westfield River; examination and report on 140-foot span, wrought iron through truss.
- Clinton — Hudson Road over Nashua River; Lancaster Mills Bridge; examination and report on 89-foot and 95-foot spans, double bow-string pony truss.
- Danvers — Maple Street over Boston and Maine Railroad, Lawrence Branch; examination and report on 40-foot span, wood stringer.
- Framingham — Concord Avenue over Sudbury River; examination and report on 60-foot span, through plate girder.
- Framingham — Irving Street over Beaver Dam Brook; examination and report on wood bridge and plans prepared for reinforced concrete slab to be built by town.



- Framingham — Second Street over Beaver Dam Brook; examination and report on 8-foot span culvert.
- Grafton — Millbury Road over Quinsigamond River; examination and report on 16-foot and 17-foot span, stone arch.
- Great Barrington — State highway over Housatonic River; examination and report on 92-foot span, pony parabolic truss.
- Lanesborough — Town Road over Housatonic River; report and sketch for 18-foot span, steel I beam with concrete floor.
- Marshfield — Humarock Bridge over North River at Scituate line; examination and report on timber pile trestle.
- Middlefield — At Worthington line; report on two 21.5-foot spans, wood stringer.
- Ware — Palmer Road over Ware River, Three Mile Bridge; examination and report on 82.5-foot span, iron pony truss.
- Washington — Valley Road over Branch of Housatonic River; examination and report on 24-foot span, wooden bridge.
- Westhampton — Kings Highway over North Branch Manhan River; examination and report on 20-foot span, wood stringer.

*Examinations, Reports, Estimates, etc., by direction of the Department  
Cities and Towns, Locality and Subject*

- Charlemont — Mohawk Trail over Boston and Maine Railroad; studies and estimates for abolition of grade crossing.
- Dennis — South County Road over Swan Pond River; examination and report on 40-foot span, through still plate girder.
- Gloucester — Essex Street over inlet; examination of 14-foot span, wood stringer.
- Harwich — Lower County Road over Herring River; examination, report and estimate on replacement of 55-foot pile and timber trestle.
- Huntington — Over Westfield River; examination and report on feasibility of removal and relocation of Pitcher Bridge.
- Lawrence — Osgood Street, Boston and Maine Railroad; report on foot passage-way.
- Middleborough — Grove Street over New York, New Haven and Hartford Railroad; examination and report on two 96-foot and 48-foot spans, plate girders.
- Needham — Needham Street over Charles River at Newton line; examination and report on repairs to 3-span, granite arch.
- Northfield — Mount Hermon Bridge over Connecticut River; examination and report on protection of piers.
- Oxford — West Sutton Road over brook; examination of stone arch.
- Sheffield — Studies for bridge and relocation of highway over New York, New Haven and Hartford Railroad and Konkapot River, at Ashley Falls.
- Sterling — State highway over Boston and Maine and New York, New Haven and Hartford railroads; report on repairs to 86-foot span, steel pony truss, and 35.8-foot span, wood stringer.
- Worcester Turnpike — Brookline to Worcester; preliminary studies for separation of grades of cross streets.

*Bridge Plans Submitted and Examined during the Year under the provisions of  
Chapter 85, General Laws, as amended by Chapter 313, Acts of 1923*

*Cities and Towns, Location, Character of Work and Date of Approval*

- Auburn — Rockland Road; reinforced concrete slabs over Stoneville Brook and over Flume; approved July 2, 1929.
- Beverly — Bridge Street over Bass River; 146-foot plate girder draw span and 129-foot pile and timber approach spans; approved August 27, 1929.
- Bernardston — Town road over Mill Brook; reinforced concrete beam; approved July 23, 1929.
- Dalton — Old Windsor Road over Branch of Housatonic River; 38.3-foot span, plate girder with rubble concrete abutments; approved October 8, 1929.

Leominster — Central Street over Monoosnock Brook; steel I beam and reinforced concrete extension to stone arch; approved August 13, 1929.

Millbury — Greenwood Street over Blackstone River, one 50-foot span, steel girder with reinforced concrete slab deck; and over Greenwood Street Brook, one 17-foot span steel girder with reinforced concrete deck; approved August 20, 1929.

Northampton — Water Street over Roberts Meadow Brook, one 30-foot span, reinforced concrete arch; Reservoir Road over Roberts Meadow Brook, one 20-foot span, reinforced concrete arch; Westhampton Road over Parsons Brook, steel stringer with jack arches and reinforced concrete floor; approved April 23, 1929.

Northbridge — Uxbridge Road over West River; one 30-foot span, stone arch; approved March 5, 1929.

Taunton — Spring Street over Mill River; two 23-foot spans, reinforced concrete beam and slab; approved July 30, 1929.

Weymouth — Repairs and alterations to Back River Bridge of three fixed and one draw span, with a total length of 248 feet; approved March 12, 1929.

Worcester — Millbury Street over Middle River; two 24-foot and one 25-foot spans, steel superstructure with reinforced concrete floor; approved April 30, 1929.

*Legislative Resolves of 1927 and 1929. Examinations, Studies, Estimates and Reports on Bridges and Structures*

*Cities and Towns, Locality and Character of Work*

Chapter 38, Resolves of 1927. Examination and report on all bridges on main through routes of travel. See Senate No. 10, 1929.

Revere — Chapter 23, Resolves of 1929. Examination, study and estimate for reconstruction of bridge at Point of Pines over Boston, Revere Beach and Lynn Railroad, 190-foot span.

Revere — Chapter 25, Resolves of 1929. Examination, study and estimate for reconstruction of Saugus River Bridge.

Revere — Chapter 44, Resolves of 1929. Approximate estimate for separation of grades of Broadway and Revere Beach Parkway.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1929, was 386. In 1928 the number of such openings was 365; in 1927 the number reached 200, and in 1926 amounted to 209.

The total expenditure during the year was \$5,144.53, including repairs to draw fender piers.

The total expenditure from 1912 to Nov. 30, 1929, inclusive, was \$143,311.60.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1929, was 1,789. In 1928 the number of such openings was 1,982; in 1927 the number reached 2,043; and in 1926 amounted to 1,617.

The total expenditure during the year was \$12,285.01, including strengthening and rebuilding entire bridge floor.

The total expenditure from 1912 to Nov. 30, 1929, inclusive, was \$312,736.84.



## CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, and by chapter 288, Acts of 1925, and by section 6, chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Barnstable County</i>					
Bourne . . . . .	\$7,050 00	\$6,000 00	\$7,050 00	Bituminous macadam . . . . .	2,645
Brewster . . . . .	15,000 00	7,500 00	7,500 00	Bituminous concrete . . . . .	7,666
Dennis . . . . .	20,000 00	10,000 00	10,000 00	Bituminous concrete . . . . .	13,240
Harwich . . . . .	8,000 00	5,000 00	5,000 00	Bituminous concrete . . . . .	4,425
<i>Berkshire County</i>					
Alford . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	800
Becket . . . . .	1,000 00	1,000 00	1,000 00	Bridge and approaches . . . . .	—
Becket . . . . .	500 00	500 00	500 00	Gravel . . . . .	500
Cheshire . . . . .	3,000 00	2,700 00	2,700 00	Bridge and approaches . . . . .	—
Cheshire . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,700
Clarksburg . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	7,000
Egremont . . . . .	600 00	600 00	—	Gravel . . . . .	550
Egremont . . . . .	600 00	600 00	—	Gravel . . . . .	550
Florida . . . . .	2,500 00	2,500 00	—	Gravel . . . . .	1,500
Great Barrington . . . . .	6,000 00	6,000 00	—	Gravel . . . . .	2,730
Hancock . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	675
Monterey . . . . .	4,000 00	1,000 00	4,000 00	Bituminous macadam . . . . .	1,750
Mount Washington . . . . .	1,500 00	500 00	1,000 00	Gravel . . . . .	950
New Marlborough . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,300
New Marlborough . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	4,500
North Adams . . . . .	37,000 00	37,000 00	—	Reinforced cement concrete and bituminous macadam . . . . .	2,600
Otis . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	550
Richmond . . . . .	2,500 00	1,000 00	1,500 00	Gravel . . . . .	1,550
Sandisfield . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Savoy . . . . .	15,000 00	—	5,000 00	Hard pan . . . . .	3,400
Sheffield . . . . .	1,000 00	1,000 00	500 00	Gravel . . . . .	750
Tyringham . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	850
Washington . . . . .	4,000 00	2,000 00	2,000 00	Gravel . . . . .	2,200
West Stockbridge . . . . .	6,000 00	3,000 00	3,000 00	Gravel . . . . .	2,400
Williamstown . . . . .	2,000 00	4,000 00	—	Gravel . . . . .	1,717
Windsor . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	629
Windsor . . . . .	1,000 00	500 00	500 00	Gravel and hard pan . . . . .	825
<i>Bristol County</i>					
Berkley . . . . .	2,000 00	2,000 00	—	Repairs and oiling . . . . .	29,700
Dighton . . . . .	18,000 00	18,000 00	—	Bituminous macadam . . . . .	4,900
Easton . . . . .	2,500 00	2,500 00	—	Gravel . . . . .	1,650
Freetown . . . . .	1,000 00	1,500 00	—	Repairs and oiling . . . . .	59,136
Freetown . . . . .	6,000 00	2,000 00	6,000 00	Gravel . . . . .	6,100
Norton . . . . .	3,000 00	1,000 00	2,000 00	Gravel . . . . .	1,800
Rehoboth . . . . .	6,000 00	6,000 00	6,000 00	Waterbound macadam . . . . .	3,450
Taunton . . . . .	8,000 00	16,000 00	—	Bituminous macadam . . . . .	2,934
Westport . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,500
<i>Dukes County</i>					
West Tisbury . . . . .	25,000 00	2,500 00	7,500 00	Bituminous concrete . . . . .	8,100
<i>Essex County</i>					
Amesbury . . . . .	13,000 00	19,500 00	6,500 00	Gravel . . . . .	17,350
Andover . . . . .	57,000 00	50,000 00	50,000 00	Bridge and approaches . . . . .	—
Beverly . . . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam . . . . .	5,550
Boxford . . . . .	12,750 00	2,250 00	7,500 00	Bituminous macadam . . . . .	2,650
Boxford . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,800
Boxford . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,200
Danvers . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,100
Essex . . . . .	49,000 00	8,600 00	28,400 00	Bituminous macadam . . . . .	11,772
Georgetown . . . . .	23,000 00	4,000 00	13,000 00	Bituminous macadam . . . . .	5,850
Haverhill . . . . .	9,000 00	18,000 00	9,000 00	Bituminous macadam . . . . .	3,435
Lawrence . . . . .	3,500 00	7,000 00	3,500 00	Reinforced concrete . . . . .	1,700
Lynnfield . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,100
Methuen . . . . .	4,000 00	5,000 00	4,000 00	Bituminous macadam . . . . .	1,600
Middleton . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	3,600
Newbury . . . . .	5,600 00	5,600 00	5,600 00	Bridge and approaches . . . . .	—
Peabody . . . . .	6,250 00	12,500 00	6,250 00	Bituminous macadam . . . . .	3,650
Rowley . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	900
Rowley . . . . .	500 00	500 00	—	Oiling . . . . .	11,000
Salem . . . . .	15,000 00	35,000 00	10,000 00	Bituminous macadam and reinforced cement concrete . . . . .	4,518
Salisbury . . . . .	2,500 00	2,500 00	2,500 00	Bituminous macadam . . . . .	1,627
Saugus . . . . .	2,300 00	2,300 00	2,300 00	Bituminous macadam . . . . .	1,500
West Newbury . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	800

## COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Franklin County</i>					
Ashfield . . . . .	\$1,500 00	\$1,500 00	—	Gravel . . . . .	1,000
Ashfield . . . . .	1,500 00	1,500 00	—	Gravel . . . . .	800
Ashfield . . . . .	5,000 00	1,500 00	\$1,000 00	Gravel . . . . .	2,200
Buckland . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	862
Buckland . . . . .	6,000 00	5,000 00	1,000 00	Bituminous macadam . . . . .	3,400
Charlemont . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Colrain . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,200
Conway . . . . .	2,500 00	1,500 00	1,000 00	Gravel . . . . .	2,030
Deerfield . . . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,700
Erving . . . . .	500 00	500 00	—	Grading and oiling . . . . .	1,900
Gill . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Gill . . . . .	3,800 00	—	—	Repairs and oiling . . . . .	35,611
Greenfield . . . . .	7,500 00	7,500 00	2,000 00	Bituminous macadam . . . . .	4,630
Hawley . . . . .	1,400 00	700 00	700 00	Gravel . . . . .	1,000
Hawley . . . . .	1,400 00	700 00	700 00	Gravel . . . . .	1,050
Heath . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,400
Leverett . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	5,000
Leyden . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Montague . . . . .	18,000 00	18,000 00	1,000 00	Bituminous macadam . . . . .	11,100
New Salem . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	2,200
Northfield . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	1,300
Orange . . . . .	1,000 00	2,000 00	1,000 00	Gravel . . . . .	6,600
Orange . . . . .	2,000 00	2,000 00	1,000 00	Gravel . . . . .	2,500
Rowe . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,600
Shelburne . . . . .	2,000 00	2,000 00	1,000 00	Gravel . . . . .	1,800
Shutesbury . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Sunderland . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Warwick . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Warwick . . . . .	1,000 00	500 00	500 00	Culvert and approaches . . . . .	—
Wendell . . . . .	3,000 00	2,000 00	1,000 00	Gravel . . . . .	2,100
Whately . . . . .	160 00	160 00	—	Oiling . . . . .	2,100
<i>Hampden County</i>					
Agawam . . . . .	12,000 00	24,000 00	12,000 00	Bituminous macadam . . . . .	9,950
Blandford . . . . .	12,500 00	2,500 00	12,500 00	Bituminous macadam . . . . .	3,450
Blandford . . . . .	2,000 00	1,000 00	2,000 00	Oiling and bituminous macadam . . . . .	5,250
Brimfield . . . . .	4,000 00	2,000 00	4,000 00	Gravel and tar . . . . .	3,000
Chester . . . . .	1,500 00	500 00	1,500 00	Gravel . . . . .	1,108
Chester . . . . .	2,500 00	500 00	2,500 00	Gravel . . . . .	1,400
Chester . . . . .	5,000 00	500 00	5,000 00	Gravel . . . . .	2,950
Chester . . . . .	1,500 00	—	1,500 00	Gravel . . . . .	1,150
East Longmeadow . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	3,510
Granville . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	2,766
Hampden . . . . .	5,600 00	2,800 00	5,600 00	Bituminous macadam . . . . .	3,400
Holland . . . . .	3,300 00	1,000 00	3,300 00	Gravel . . . . .	2,200
Holyoke . . . . .	27,000 00	27,000 00	27,000 00	Bituminous macadam . . . . .	10,567
Ludlow . . . . .	4,800 00	4,800 00	4,800 00	Bridge and approaches . . . . .	—
Ludlow . . . . .	2,500 00	2,500 00	2,500 00	Bridge and approaches . . . . .	—
Ludlow . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	2,422
Monson . . . . .	11,000 00	10,000 00	11,000 00	Bridge and approaches . . . . .	—
Palmer . . . . .	—	9,000 00	—	—	—
Montgomery . . . . .	1,000 00	300 00	1,000 00	Gravel . . . . .	800
Palmer . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,300
Russell . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,646
Southwick . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,350
Wales . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	650
Westfield . . . . .	4,000 00	5,000 00	4,000 00	Gravel . . . . .	8,325
Westfield . . . . .	27,000 00	27,000 00	27,000 00	Bridge and approaches . . . . .	—
West Springfield . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,176
Wilbraham . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . . . .	2,770
<i>Hampshire County</i>					
Belchertown . . . . .	6,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	4,000
Belchertown . . . . .	800 00	—	500 00	Repairs and oiling . . . . .	15,576
Chesterfield . . . . .	2,000 00	1,000 00	1,000 00	Gravel . . . . .	1,200
Chesterfield . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,250
Cummington . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	800
Easthampton . . . . .	5,000 00	5,000 00	3,000 00	Bituminous macadam . . . . .	1,700
Enfield . . . . .	5,600 00	—	500 00	Repairs and oiling . . . . .	11,616
Goshen . . . . .	2,400 00	1,200 00	1,200 00	Gravel . . . . .	2,198
Granby . . . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam . . . . .	1,800
Granby . . . . .	2,000 00	1,000 00	1,000 00	Bituminous macadam . . . . .	900
Greenwich . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,155
Hadley . . . . .	27,000 00	8,000 00	8,000 00	Bituminous macadam . . . . .	20,076
Huntington . . . . .	750 00	750 00	—	Bridge repairs . . . . .	—
Huntington . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	550
Middlefield . . . . .	1,000 00	—	500 00	Gravel . . . . .	375
Middlefield . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	700
Middlefield . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	500
Northampton . . . . .	5,000 00	5,000 00	3,000 00	Gravel . . . . .	5,750
Pelham . . . . .	1,000 00	500 00	500 00	Gravel . . . . .	1,500
South Hadley . . . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . . . .	1,050
Westhampton . . . . .	1,500 00	750 00	750 00	Gravel . . . . .	1,300
Worthington . . . . .	3,000 00	1,500 00	1,500 00	Gravel . . . . .	950
<i>Middlesex County</i>					
Acton . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	2,100
Acton . . . . .	1,500 00	1,500 00	1,500 00	Gravel . . . . .	1,425



COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Middlesex County—Continued</i>					
Ashby . . . . .	\$1,000 00	\$500 00	\$1,000 00	Repairs and oiling . . .	17,952
Ashland . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	15,312
Ashland . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	3,000
Bedford . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	890
Billerica . . . . .	2,000 00	2,000 00	2,000 00	Gravel . . . . .	1,150
Boxborough . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,200
Boxborough . . . . .	1,000 00	500 00	1,000 00	Gravel . . . . .	1,280
Boxborough . . . . .	750 00	750 00	750 00	Repairs and oiling . . .	28,512
Burlington . . . . .	6,000 00	3,000 00	6,000 00	Bituminous macadam . . .	3,800
Burlington . . . . .	2,000 00	2,000 00	1,000 00	Repairs and oiling . . .	40,128
Burlington . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,454
Carlisle . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,100
Carlisle . . . . .	8,000 00	4,000 00	8,000 00	Gravel . . . . .	6,261
Chelmsford . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	1,700
Chelmsford . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Chelmsford . . . . .	2,500 00	2,500 00	2,500 00	Bridge and approaches . .	—
Concord . . . . .	12,500 00	25,000 00	12,500 00	Bituminous macadam . . .	9,600
Concord . . . . .	450 00	900 00	450 00	Bituminous macadam . . .	400
Dracut . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,500
Dracut . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	3,400
Dunstable . . . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . .	41,184
Dunstable . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,550
Framingham . . . . .	2,000 00	4,000 00	2,000 00	Bridge and approaches . .	—
Framingham . . . . .	2,750 00	5,500 00	2,750 00	Bituminous macadam and bituminous concrete . . .	2,550
Groton . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	16,368
Groton . . . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . .	2,232
Holliston . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	39,600
Holliston . . . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	445
Holliston . . . . .	3,500 00	3,500 00	3,500 00	Bituminous macadam . . .	1,500
Hopkinton . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	57,552
Hopkinton . . . . .	4,000 00	2,000 00	4,000 00	Gravel and bituminous mac- adam . . . . .	2,725
Hudson . . . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . .	7,446
Lexington . . . . .	2,200 00	2,200 00	2,200 00	Bituminous macadam . . .	700
Lexington . . . . .	13,000 00	13,000 00	13,000 00	Bituminous macadam . . .	4,750
Lincoln . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	36,960
Littleton . . . . .	1,600 00	1,600 00	1,600 00	Repairs and oiling . . .	39,072
Littleton . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,200
Littleton . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	1,400
Lowell . . . . .	1,500 00	3,000 00	1,500 00	Bituminous macadam . . .	800
Marlborough . . . . .	8,000 00	8,000 00	8,000 00	Reinforced cement concrete	1,634
Marlborough . . . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . .	1,245
Maynard . . . . .	2,600 00	2,600 00	2,600 00	Bituminous macadam . . .	450
Natick . . . . .	3,500 00	3,500 00	3,500 00	Gravel . . . . .	4,600
Newton . . . . .	12,500 00	25,000 00	12,500 00	Bridge and approaches . .	—
North Reading . . . . .	3,300 00	3,300 00	3,300 00	Bituminous macadam . . .	2,500
North Reading . . . . .	1,700 00	1,700 00	1,700 00	Repairs and oiling . . .	44,880
Pepperell . . . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . .	32,450
Pepperell . . . . .	18,000 00	18,000 00	18,000 00	Gravel . . . . .	19,120
Sherborn . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	66,528
Sherborn . . . . .	10,000 00	5,000 00	10,000 00	Bituminous macadam . . .	4,500
Stoneham . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . .	4,533
Stoneham . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	2,550
Stow . . . . .	2,500 00	2,500 00	2,500 00	Repairs and oiling . . .	36,960
Sudbury . . . . .	3,650 00	4,000 00	4,000 00	Repairs and oiling . . .	79,728
Sudbury . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,000
Tewksbury . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	12,144
Tewksbury . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling and bitu- minous macadam . . .	3,600
Townsend . . . . .	9,250 00	3,000 00	9,250 00	Gravel . . . . .	8,493
Townsend . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	22,440
Tyngsborough . . . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	41,184
Tyngsborough . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	4,700
Wakefield . . . . .	800 00	800 00	800 00	Bituminous macadam . . .	650
Wakefield . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	2,479
Watertown . . . . .	20,000 00	20,000 00	20,000 00	Reinforced cement concrete	4,450
Wayland . . . . .	2,000 00	4,000 00	2,000 00	Repairs and oiling . . .	42,240
Wayland . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	3,243
Westford . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	4,700
Westford . . . . .	2,500 00	2,500 00	2,500 00	Gravel . . . . .	3,600
Westford . . . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . . .	70,224
Westford . . . . .	4,000 00	4,000 00	4,000 00	Gravel . . . . .	4,065
Weston . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . .	2,855
Wilmington . . . . .	750 00	750 00	750 00	Repairs and oiling . . .	19,536
Wilmington . . . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam . . .	1,500
Winchester . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . .	4,900
Woburn . . . . .	3,500 00	7,000 00	3,500 00	Bituminous macadam . . .	2,000
<i>Nantucket County</i>					
Nantucket . . . . .	10,000 00	10,000 00	—	Bituminous concrete . . .	4,754
<i>Norfolk County</i>					
Avon . . . . .	9,000 00	9,000 00	9,000 00	Bituminous macadam . . .	3,699
Bellingham . . . . .	2,650 00	1,325 00	1,325 00	Repairs and oiling . . .	23,700
Bellingham . . . . .	10,000 00	5,000 00	5,000 00	Gravel . . . . .	4,930
Canton . . . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	800

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Norfolk County — Continued</i>					
Cantor . . . . .	\$300 00	\$300 00	\$300 00	Gravel . . . . .	348
Canton . . . . .	10,000 00	20,000 00	10,000 00	Bituminous macadam . . . . .	4,285
Foxborough . . . . .	9,999 00	9,999 00	9,999 00	Bituminous macadam . . . . .	5,100
Franklin . . . . .	6,000 00	6,000 00	6,000 00	Gravel . . . . .	6,150
Holbrook . . . . .	14,000 00	14,000 00	14,000 00	Bituminous macadam . . . . .	5,220
Medfield . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,300
Medway . . . . .	24,150 00	10,950 00	11,700 00	Bridge and approaches . . . . .	—
Medway . . . . .	1,000 00	1,000 00	1,000 00	Gravel . . . . .	2,400
Millis . . . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam . . . . .	5,650
Needham . . . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam . . . . .	3,900
Norfolk . . . . .	6,000 00	2,000 00	4,000 00	Gravel . . . . .	4,900
Norfolk . . . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . . . .	21,648
Randolph . . . . .	10,000 00	7,500 00	7,500 00	Gravel . . . . .	5,202
Sharon . . . . .	800 00	800 00	800 00	Gravel . . . . .	750
Sharon . . . . .	5,000 00	5,000 00	5,000 00	Gravel . . . . .	3,800
Wellesley . . . . .	12,500 00	25,000 00	12,500 00	Bridge and approaches . . . . .	—
Westwood . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	2,450
<i>Plymouth County</i>					
Carver . . . . .	4,000 00	2,000 00	—	Bituminous concrete . . . . .	3,417
Duxbury . . . . .	9,100 00	8,000 00	6,000 00	Bituminous concrete . . . . .	5,935
East Bridgewater . . . . .	23,000 00	46,000 00	—	Bridge and approaches . . . . .	—
Hanson . . . . .	6,000 00	3,000 00	3,000 00	Bituminous concrete . . . . .	2,650
Hingham . . . . .	17,000 00	17,000 00	17,000 00	Bituminous macadam . . . . .	7,703
Kingston . . . . .	11,500 00	7,500 00	11,000 00	Bituminous macadam . . . . .	6,200
Lakeville . . . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	3,910
Lakeville . . . . .	1,000 00	2,000 00	—	Gravel . . . . .	2,900
Pembroke . . . . .	25,000 00	10,000 00	20,000 00	Bituminous macadam . . . . .	10,858
Plympton . . . . .	3,500 00	1,000 00	2,500 00	Gravel . . . . .	5,600
<i>Worcester County</i>					
Athol . . . . .	9,500 00	9,500 00	9,500 00	Bituminous macadam . . . . .	3,224
Athol . . . . .	2,100 00	800 00	800 00	Bituminous macadam . . . . .	571
Berlin . . . . .	5,500 00	3,500 00	5,500 00	Gravel . . . . .	3,100
Berlin . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	36,432
Blackstone . . . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . . . .	1,400
Bolton . . . . .	25,450 00	4,100 00	16,450 00	Bituminous macadam . . . . .	6,194
Boylston . . . . .	32,750 00	1,500 00	24,750 00	Bituminous macadam . . . . .	8,960
Brookfield . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	2,800
Clinton . . . . .	10,000 00	20,000 00	10,000 00	Bituminous macadam . . . . .	6,750
Dana . . . . .	2,500 00	1,000 00	2,500 00	Gravel . . . . .	1,600
Dudley . . . . .	800 00	800 00	—	Repairs and oiling . . . . .	13,522
Gardner . . . . .	12,500 00	25,000 00	12,500 00	Bridge and approaches . . . . .	—
Gardner . . . . .	5,500 00	11,000 00	5,500 00	Bituminous macadam . . . . .	3,550
Hardwick . . . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . . . .	2,494
Holden . . . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . . . .	2,525
Hubbardston . . . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . . . .	42,240
Hubbardston . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	3,200
Lancaster . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,350
Leicester . . . . .	4,500 00	5,000 00	4,500 00	Gravel . . . . .	2,900
Lunenburg . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	6,525
Lunenburg . . . . .	500 00	500 00	500 00	Repairs and oiling . . . . .	3,696
Lunenburg . . . . .	9,500 00	5,500 00	9,500 00	Gravel . . . . .	8,100
Mendon . . . . .	600 00	300 00	600 00	Repairs and oiling . . . . .	16,484
Mendon . . . . .	2,160 00	1,000 00	2,160 00	Gravel . . . . .	2,000
Milford . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	4,297
Millville . . . . .	3,000 00	3,000 00	3,000 00	Gravel . . . . .	2,300
New Braintree . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,675
New Braintree . . . . .	400 00	400 00	400 00	Gravel . . . . .	4,846
Oakham . . . . .	3,000 00	1,900 00	3,000 00	Gravel . . . . .	2,500
Oxford . . . . .	20,148 52	25,000 00	25,000 00	Bridge and approaches . . . . .	—
Paxton . . . . .	500 00	500 00	500 00	Gravel . . . . .	600
Paxton . . . . .	1,200 00	600 00	1,200 00	Bridge . . . . .	—
Petersham . . . . .	5,000 00	3,000 00	5,000 00	Bridge and approaches . . . . .	1,500
Phillipston . . . . .	9,000 00	2,000 00	9,000 00	Gravel . . . . .	3,555
Princeton . . . . .	900 00	400 00	900 00	Repairs and oiling . . . . .	22,704
Princeton . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	2,350
Princeton . . . . .	400 00	—	110 00	Repairs and oiling . . . . .	4,300
Royalston . . . . .	6,000 00	3,000 00	6,000 00	Gravel . . . . .	3,100
Rutland . . . . .	4,000 00	2,000 00	4,000 00	Gravel . . . . .	24,575
Southborough . . . . .	3,100 00	3,100 00	3,100 00	Bituminous macadam . . . . .	2,100
Spencer . . . . .	5,000 00	5,000 00	5,000 00	Gravel and tar . . . . .	4,200
Sterling . . . . .	1,550 00	500 00	1,550 00	Repairs and oiling . . . . .	25,872
Sterling . . . . .	6,000 00	3,000 00	6,000 00	Bridge and approaches . . . . .	—
Sutton . . . . .	6,000 00	3,000 00	6,000 00	Bituminous macadam . . . . .	5,600
Sutton . . . . .	250 00	—	250 00	Repairs and oiling . . . . .	1,300
Templeton . . . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . . . .	14,256
Warren . . . . .	3,300 00	3,300 00	3,300 00	Gravel . . . . .	3,000
West Boylston . . . . .	2,500 00	2,500 00	2,500 00	Gravel and tar . . . . .	1,947
West Brookfield . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,300
Westborough . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	5,134
Westborough . . . . .	10,000 00	10,000 00	10,000 00	Bituminous macadam . . . . .	3,500
Westminster . . . . .	1,800 00	—	1,800 00	Repairs and oiling . . . . .	16,896
Westminster . . . . .	2,000 00	1,000 00	2,000 00	Gravel . . . . .	1,550
Westminster . . . . .	250 00	—	610 00	Repairs and oiling . . . . .	5,380



## EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable, \$71,149.09	Hampshire, \$108,996.53
Berkshire, \$137,077.63	Middlesex, \$398,490.61
Bristol, \$52,223.76	Nantucket, \$12,279.78
Dukes, \$23,770.83	Norfolk, \$187,311.39
Essex, \$268,137.15	Plymouth, \$148,767.25
Franklin, \$124,257.94	Worcester, \$343,568.20
Hampden, \$173,055.75	Total, \$2,049,085.91

Details of the foregoing expenditures follow: —

*Barnstable County.* — Bourne, \$8,524.39; Brewster, \$18,466.00; Dennis, \$31,887.02; Harwich, \$12,271.68.

*Berkshire County.* — Alford, \$1,227.98; Becket, \$5,912.36; Cheshire, \$5,271.21; Clarksburg, \$1,227.60; Egremont, \$1,473.57; Florida, \$3,069.76; Great Barrington, \$7,330.53; Hancock, \$7,055.14; Hinsdale, \$184.20; Monterey, \$5,454.79; Mt. Washington, \$1,841.97; New Marlboro, \$5,076.80; No. Adams, \$27,525.49; Otis, \$7,343.10; Peru, \$11,062.29; Richmond, \$3,068.99; Sandisfield, \$2,455.96; Savoy, \$19,584.25; Sheffield, \$1,227.98; Tyringham, \$2,455.86; Washington, \$4,911.91; West Stockbridge, \$7,367.87; Williamstown, \$2,492.06; Windsor, \$2,455.96.

*Bristol County.* — Berkley, \$3,071.01; Dartmouth, \$1,976.05; Dighton, \$20,500.67; Easton, \$2,192.41; Freetown, \$8,741.50; Norton, \$3,683.93; Rehoboth, \$7,229.38; Taunton, \$2,372.85; Westport, \$2,455.96.

*Dukes County.* — West Tisbury, \$23,770.83.

*Essex County.* — Amesbury, \$11,921.10; Andover, \$51,660.59; Beverly, \$12,122.21; Boxford, \$14,915.87; Danvers, \$5,093.54; Essex, \$49,969.42; Georgetown, \$33,401.30; Hamilton, \$1,187.53; Haverhill, \$9,644.01; Lawrence, \$3,899.11; Lynnfield, \$18,661.50; Methuen, \$6,802.86; Middleton, \$3,683.93; Newbury, \$6,181.86; Peabody, \$10,039.34; Rowley, \$1,841.97; Salem, \$18,417.35; Salisbury, \$2,397.76; Saugus, \$2,957.29; West Newbury, \$3,338.61.

*Franklin County.* — Ashfield, \$20,414.55; Buckland, \$8,595.85; Charlemont, \$2,455.96; Colrain, \$4,519.48; Conway, \$3,246.33; Deerfield, \$4,911.91; Erving, \$613.99; Gill, \$7,122.27; Greenfield, \$8,441.80; Hawley, \$3,438.34; Heath, \$2,455.96; Leverett, \$1,227.98; Leyden, \$2,455.96; Montague, \$18,398.15; New Salem, \$2,455.96; Northfield, \$2,455.96; Orange, \$6,199.29; Rowe, \$2,455.96; Shelburne, \$2,455.96; Shutesbury, \$2,455.96; Sunderland, \$2,445.96; Warwick, \$11,144.89; Wendell, \$3,683.93; Whately, \$195.54.

*Hampden County.* — Agawam, \$8,938.21; Blandford, \$16,773.43; Brimfield, \$5,353.37; Chester, \$12,832.94; East Longmeadow, \$3,067.43; Granville, \$4,911.91; Hampden, \$6,876.68; Holland, \$3,522.99; Holyoke, \$15,603.83; Ludlow, \$10,218.45; Monson, \$9,207.69; Montgomery, \$1,227.95; Palmer, \$19,056.92; Russell, \$3,683.93; Southwick, \$3,069.94; Tolland, \$3,687.02; Wales, \$1,227.98; West Springfield, \$13,023.48; Westfield, \$25,901.00; Wilbraham, \$4,870.60.

*Hampshire County.* — Belchertown, \$8,349.94; Chesterfield, \$5,277.13; Cummington, \$1,906.55; Easthampton, \$4,898.18; Enfield, \$7,360.34; Goshen, \$5,391.36; Granby, \$7,367.87; Greenwich, \$1,227.98; Hadley, \$35,580.77; Huntington, \$1,764.12; Middlefield, \$5,076.96; Northampton, \$6,139.89; Pelham, \$1,227.97; Plainfield, \$7,650.66; So. Hadley, \$1,820.82; Westhampton, \$1,841.97; Williamsburg, \$207.00; Worthington, \$5,907.02.

*Middlesex County.* — Acton, \$2,789.71; Ashby, \$1,227.98; Ashland, \$4,905.35; Bedford, \$2,455.96; Billerica, \$8,434.47; Boxborough, \$3,559.86; Burlington, \$12,934.33; Carlisle, \$13,747.98; Chelmsford, \$7,980.31; Concord, \$13,171.55; Dracut, \$4,823.80; Dunstable, \$4,604.92; Framingham, \$5,831.67; Groton, \$8,850.27; Holliston, \$5,964.17; Hopkinton, \$7,367.87; Hudson, \$18,038.58; Lexington, \$17,175.87; Lincoln, \$1,227.98; Littleton, \$5,648.70; Lowell, \$11,114.45; Malden, \$952.97; Marlborough, \$13,857.10; Maynard, \$7,496.12; Medford, \$925.71; Natick, \$4,268.73; Newton, \$14,567.43; No. Reading, \$6,047.79; Pepperell, \$19,444.16; Sherborn, \$14,735.74; Stoneham, \$21,853.52; Stow, \$3,069.94; Sudbury, \$5,710.10; Tewksbury, \$2,455.96; Townsend, \$8,950.60; Tyngsborough,

\$6,753.88; Wakefield, \$6,446.70; Waltham, \$3,708.15; Watertown, \$21,279.63; Wayland, \$8,603.32; Westford, \$18,268.47; Weston, \$13,940.95; Wilmington, \$16,163.30; Winchester, \$13,507.76; Woburn, \$3,626.80.

*Nantucket County.*—Nantucket, \$12,279.78.

*Norfolk County.*—Avon, \$8,090.30; Bellingham, \$12,476.65; Canton, \$21,-220.99; Dedham, \$23,306.90; Foxborough, \$11,245.03; Franklin, \$1,549.86; Holbrook, \$12,558.47; Medfield, \$11,615.92; Medway, \$24,308.79; Millis, \$12,-665.20; Milton, \$1,097.22; Needham, \$5,419.58; Norfolk, \$4,282.57; Randolph, \$11,146.66; Sharon, \$8,159.99; Wellesley, \$14,567.43; Westwood, \$3,599.83.

*Plymouth County.*—Carver, \$4,780.52; Duxbury, \$12,851.18; East Bridge-water, \$28,243.50; Hanson, \$10,050.52; Hingham, \$11,232.48; Kingston, \$17,-437.08; Lakeville, \$12,603.87; Mattapoisett, \$3,460.05; Pembroke, \$36,873.57; Plympton, \$4,297.54; Rochester, \$6,936.94.

*Worcester County.*—Athol, \$10,188.57; Berlin, \$12,803.34; Blackstone, \$2,-790.32; Bolton, \$31,765.44; Boylston, \$33,417.60; Brookfield, \$2,455.96; Clinton, \$9,781.68; Dana, \$3,069.54; Dudley, \$805.71; Gardner, \$18,729.90; Hardwick, \$5,054.73; Holden, \$6,205.99; Hubbardston, \$3,683.58; Lancaster, \$12,427.10; Leicester, \$3,966.12; Lunenburg, \$9,550.40; Mendon, \$2,571.88; Milford, \$9,-402.26; Millville, \$4,851.48; New Braintree, \$2,392.95; Oakham, \$2,719.45; Oxford, \$21,630.97; Paxton, \$2,087.56; Petersham, \$6,162.78; Phillipston, \$9,-237.13; Princeton, \$13,058.32; Royalston, \$7,003.61; Rutland, \$4,911.91; South-borough, \$3,852.79; Spencer, \$5,812.28; Sterling, \$7,343.82; Sutton, \$20,530.13; Templeton, \$2,455.96; Upton, \$8,756.89; Warren, \$3,415.28; West Boylston, \$3,276.05; West Brookfield, \$1,781.88; Westborough, \$13,443.38; Westminster, \$20,173.46.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS,  
IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with refer-  
ence to section 26 by section 1 of chapter 120, Acts of 1922, and by chapter  
315, Acts of 1926.)

During the year the Department contracted for work to be done in the towns  
named in the following table, which also shows the road mileage in the towns and  
the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Barnstable County:</i>			
Brewster . . . . .	40	\$4,000 00	\$4,000 00
Dennis . . . . .	80	8,000 00	8,000 00
Eastham . . . . .	41	4,100 00	3,075 00
Mashpee . . . . .	27	2,700 00	2,025 00
Sandwich . . . . .	67	6,700 00	5,025 00
Truro . . . . .	27	2,700 00	2,025 00
Wellfleet . . . . .	35	3,500 00	3,500 00
<i>Berkshire County:</i>			
Alford . . . . .	20	2,000 00	800 00
Becket . . . . .	58	5,800 00	2,320 00
Cheshire . . . . .	42	4,200 00	4,200 00
Egremont . . . . .	31	3,100 00	2,325 00
Florida . . . . .	42	4,200 00	3,150 00
Hancock . . . . .	30	3,000 00	1,500 00
Hinsdale . . . . .	35	3,500 00	2,625 00
Lanesborough . . . . .	39	3,900 00	2,925 00
Monterey . . . . .	53	5,300 00	2,120 00
Mount Washington . . . . .	20	2,000 00	500 00
New Ashford . . . . .	9	900 00	360 00
New Marlborough . . . . .	85	8,500 00	3,400 00
Otis . . . . .	48	4,800 00	1,200 00
Peru . . . . .	37	3,700 00	555 00



Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Berkshire County — Con.</i>			
Richmond . . . . .	34	\$3,400 00	\$1,700 00
Sandisfield . . . . .	79	7,900 00	1,185 00
Savoy . . . . .	56	5,600 00	840 00
Sheffield . . . . .	77	7,700 00	3,850 00
Tyringham . . . . .	25	2,500 00	1,250 00
Washington . . . . .	51	5,100 00	765 00
West Stockbridge . . . . .	36	3,600 00	2,700 00
Windsor . . . . .	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley . . . . .	42	4,200 00	2,100 00
Freetown . . . . .	47	4,700 00	4,700 00
Norton . . . . .	57	5,700 00	7,125 00
Raynham . . . . .	45	4,500 00	4,500 00
Rehoboth . . . . .	109	10,900 00	5,450 00
<i>Dukes County:</i>			
Chilmark . . . . .	14	1,400 00	1,400 00
West Tisbury . . . . .	12	1,200 00	1,800 00
<i>Essex County:</i>			
Boxford . . . . .	52	5,200 00	2,600 00
Essex . . . . .	21	2,100 00	3,150 00
Georgetown . . . . .	34	3,400 00	4,250 00
Groveland . . . . .	30	3,000 00	4,500 00
Merrimac . . . . .	31	3,100 00	4,650 00
Middleton . . . . .	30	3,000 00	3,750 00
Newbury . . . . .	36	3,600 00	5,400 00
Rowley . . . . .	31	3,100 00	3,875 00
Topsfield . . . . .	38	3,800 00	5,700 00
West Newbury . . . . .	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield . . . . .	82	8,200 00	3,280 00
Bernardston . . . . .	41	4,100 00	2,050 00
Buckland . . . . .	45	4,500 00	6,750 00
Charlemont . . . . .	50	5,000 00	3,750 00
Colrain . . . . .	84	8,400 00	4,200 00
Conway . . . . .	76	7,600 00	1,900 00
Gill . . . . .	36	3,600 00	2,700 00
Hawley . . . . .	49	4,900 00	735 00
Heath . . . . .	54	5,400 00	810 00
Leverett . . . . .	38	3,800 00	1,520 00
Leyden . . . . .	41	4,100 00	615 00
Monroe . . . . .	18	1,800 00	2,700 00
Northfield . . . . .	68	6,800 00	5,100 00
New Salem . . . . .	64	6,400 00	1,600 00
Rowe . . . . .	41	4,100 00	2,050 00
Shelburne . . . . .	48	4,800 00	6,000 00
Shutesbury . . . . .	40	4,000 00	1,000 00
Sunderland . . . . .	34	3,400 00	3,400 00
Warwick . . . . .	55	5,500 00	1,375 00
Wendell . . . . .	48	4,800 00	2,400 00
<i>Hampden County:</i>			
Blandford . . . . .	83	8,300 00	2,075 00
Brimfield . . . . .	60	6,000 00	3,000 00
Chester . . . . .	66	6,600 00	4,950 00
Granville . . . . .	73	7,300 00	1,825 00
Hampden . . . . .	34	3,400 00	1,700 00
Holland . . . . .	30	3,000 00	450 00
Montgomery . . . . .	27	2,700 00	675 00

Counties and Towns						Miles of Road	Allotments	
							State	Town
<i>Hampden County — Con.</i>								
Southwick	.	.	.	.	.	50	\$5,000 00	\$3,750 00
Tolland	.	.	.	.	.	41	3,050 00	615 00
Wales	.	.	.	.	.	25	2,500 00	1,250 00
Wilbraham	.	.	.	.	.	43	4,300 00	6,450 00
<i>Hampshire County:</i>								
Belchertown	.	.	.	.	.	115	11,500 00	4,600 00
Chesterfield	.	.	.	.	.	59	5,900 00	885 00
Cummington	.	.	.	.	.	49	4,900 00	1,225 00
Enfield	.	.	.	.	.	37	3,700 00	1,480 00
Goshen	.	.	.	.	.	28	2,800 00	1,120 00
Hadley	.	.	.	.	.	58	5,800 00	7,250 00
Granby	.	.	.	.	.	48	4,800 00	2,400 00
Greenwich	.	.	.	.	.	39	3,900 00	975 00
Huntington	.	.	.	.	.	39	3,900 00	3,900 00
Hatfield	.	.	.	.	.	47	4,700 00	7,050 00
Middlefield	.	.	.	.	.	38	3,800 00	570 00
Pelham	.	.	.	.	.	40	4,000 00	1,600 00
Plainfield	.	.	.	.	.	49	4,900 00	735 00
Prescott	.	.	.	.	.	39	3,900 00	585 00
Southampton	.	.	.	.	.	56	5,600 00	2,240 00
Westhampton	.	.	.	.	.	50	5,000 00	750 00
Williamsburg	.	.	.	.	.	43	4,300 00	4,300 00
Worthington	.	.	.	.	.	73	7,300 00	1,095 00
<i>Middlesex County:</i>								
Acton	.	.	.	.	.	58	5,800 00	7,250 00
Ashby	.	.	.	.	.	57	5,700 00	2,850 00
Ashland	.	.	.	.	.	38	3,800 00	5,700 00
Bedford	.	.	.	.	.	36	3,600 00	5,400 00
Boxborough	.	.	.	.	.	23	2,300 00	920 00
Burlington	.	.	.	.	.	32	3,200 00	4,800 00
Carlisle	.	.	.	.	.	43	4,300 00	1,720 00
Dunstable	.	.	.	.	.	36	3,600 00	900 00
Holliston	.	.	.	.	.	50	5,000 00	7,500 00
Hopkinton	.	.	.	.	.	66	6,600 00	6,600 00
Lincoln	.	.	.	.	.	40	4,000 00	6,000 00
Littleton	.	.	.	.	.	42	4,200 00	5,250 00
North Reading	.	.	.	.	.	29	2,900 00	4,350 00
Pepperell	.	.	.	.	.	68	6,800 00	8,500 00
Sherborn	.	.	.	.	.	42	4,200 00	4,200 00
Shirley	.	.	.	.	.	46	4,600 00	5,750 00
Stow	.	.	.	.	.	45	4,500 00	3,375 00
Sudbury	.	.	.	.	.	61	6,100 00	6,100 00
Tewksbury	.	.	.	.	.	55	5,500 00	8,250 00
Townsend	.	.	.	.	.	70	7,000 00	5,250 00
Tyngsborough	.	.	.	.	.	41	4,100 00	3,075 00
<i>Norfolk County:</i>								
Bellingham	.	.	.	.	.	42	4,200 00	6,300 00
Medfield	.	.	.	.	.	40	4,000 00	6,000 00
Medway	.	.	.	.	.	44	4,400 00	6,600 00
Millis	.	.	.	.	.	38	3,800 00	5,700 00
Norfolk	.	.	.	.	.	40	4,000 00	4,000 00
Plainville	.	.	.	.	.	34	3,400 00	4,250 00
Wrentham	.	.	.	.	.	46	4,600 00	6,900 00
<i>Plymouth County:</i>								
Carver	.	.	.	.	.	67	6,700 00	6,700 00
Halifax	.	.	.	.	.	33	3,300 00	3,300 00
Hanson	.	.	.	.	.	36	3,600 00	5,400 00



Counties and Towns								Miles of Road	Allotments State		Town	
<i>Plymouth County — Con.</i>												
Lakeville	.	.	.	.	.	.	.	45	\$4,500	00	\$3,375	00
Norwell	.	.	.	.	.	.	.	47	4,700	00	4,700	00
Pembroke	.	.	.	.	.	.	.	47	4,700	00	5,875	00
Plympton	.	.	.	.	.	.	.	30	3,000	00	1,500	00
Rochester	.	.	.	.	.	.	.	49	4,900	00	3,675	00
West Bridgewater	.	.	.	.	.	.	.	39	3,900	00	5,850	00
<i>Worcester County:</i>												
Ashburnham	.	.	.	.	.	.	.	77	7,700	00	5,775	00
Berlin	.	.	.	.	.	.	.	39	3,900	00	2,925	00
Bolton	.	.	.	.	.	.	.	53	5,300	00	2,650	00
Boylston	.	.	.	.	.	.	.	40	4,000	00	2,000	00
Brookfield	.	.	.	.	.	.	.	36	3,600	00	3,600	00
Charlton	.	.	.	.	.	.	.	107	10,700	00	5,350	00
Dana	.	.	.	.	.	.	.	43	4,300	00	1,720	00
Douglas	.	.	.	.	.	.	.	70	7,000	00	5,250	00
East Brookfield	.	.	.	.	.	.	.	19	1,900	00	2,375	00
Harvard	.	.	.	.	.	.	.	56	5,600	00	5,600	00
Hardwick	.	.	.	.	.	.	.	86	8,600	00	8,600	00
Holden	.	.	.	.	.	.	.	76	7,600	00	9,500	00
Hubbardston	.	.	.	.	.	.	.	75	7,500	00	1,875	00
Lancaster	.	.	.	.	.	.	.	59	5,900	00	7,375	00
Lunenburg	.	.	.	.	.	.	.	66	6,600	00	4,950	00
Mendon	.	.	.	.	.	.	.	36	3,600	00	2,700	00
New Braintree	.	.	.	.	.	.	.	49	4,900	00	1,225	00
North Brookfield	.	.	.	.	.	.	.	69	6,900	00	6,900	00
Northborough	.	.	.	.	.	.	.	47	4,700	00	4,700	00
Oakham	.	.	.	.	.	.	.	45	4,500	00	1,125	00
Oxford	.	.	.	.	.	.	.	63	6,300	00	7,875	00
Paxton	.	.	.	.	.	.	.	29	2,900	00	2,175	00
Petersham	.	.	.	.	.	.	.	71	7,100	00	5,325	00
Phillipston	.	.	.	.	.	.	.	41	4,100	00	1,025	00
Princeton	.	.	.	.	.	.	.	72	7,200	00	2,880	00
Royalston	.	.	.	.	.	.	.	68	6,800	00	2,720	00
Rutland	.	.	.	.	.	.	.	68	6,800	00	3,400	00
Southborough	.	.	.	.	.	.	.	48	4,800	00	7,200	00
Sterling	.	.	.	.	.	.	.	72	7,200	00	5,400	00
Sturbridge	.	.	.	.	.	.	.	74	7,400	00	2,960	00
Sutton	.	.	.	.	.	.	.	84	8,400	00	4,200	00
Templeton	.	.	.	.	.	.	.	64	6,400	00	8,000	00
Upton	.	.	.	.	.	.	.	60	6,000	00	4,500	00
West Boylston	.	.	.	.	.	.	.	35	3,500	00	4,375	00
West Brookfield	.	.	.	.	.	.	.	53	5,300	00	3,975	00
Westminster	.	.	.	.	.	.	.	77	7,700	00	3,850	00

#### EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$33,992.20	Hampden, \$63,247.62
Berkshire, \$129,039.92	Hampshire, \$101,376.38
Bristol, \$32,941.13	Middlesex, \$103,050.88
Dukes, \$2,578.97	Norfolk, \$30,740.17
Essex, \$37,201.52	Plymouth, \$43,106.94
Franklin, \$108,099.31	Worcester, \$233,548.13
	Total, \$918,923.17

Details of the foregoing expenditures follow: —

*Barnstable County.* — Brewster, \$4,501.95; Dennis, \$8,290.19; Eastham, \$4,259.82; Harwich, \$329.41; Mashpee, \$2,942.61; Sandwich, \$7,576.41; Truro, \$2,741.96; Wellfleet, \$3,184.31; Yarmouth, \$165.54.

*Berkshire County.*—Alford, \$2,196.07; Becket, \$8,338.92; Cheshire, \$5,122.73; Egremont, \$4,538.78; Florida, \$8,839.94; Hancock, \$2,052.95; Hinsdale, \$4,311.40; Lanesborough, \$5,007.19; Monterey, \$6,799.70; Mount Washington, \$2,676.13; New Ashford, \$964.72; New Marlborough, \$10,434.84; Otis, \$6,987.95; Peru, \$4,922.01; Richmond, \$3,922.88; Sandisfield, \$8,674.51; Savoy, \$6,129.17; Sheffield, \$14,902.69; Tyringham, \$2,924.99; Washington, \$6,401.13; West Stockbridge, \$4,741.66; Windsor, \$8,149.56.

*Bristol County.*—Berkley, \$4,611.76; Freetown, \$5,160.78; Norton, \$6,258.81; Raynham, \$4,941.17; Rehoboth, \$11,968.61.

*Dukes County.*—Chilmark, \$1,480.94; West Tisbury, \$1,098.03.

*Essex County.*—Boxford, \$5,709.80; Essex, \$2,239.99; Georgetown, \$3,733.33; Groveland, \$3,294.12; Merrimac, \$3,403.91; Middleton, \$3,294.12; Newbury, \$3,887.05; Rowley, \$3,403.91; Topsfield, \$4,172.55; West Newbury, \$4,062.74.

*Franklin County.*—Ashfield, \$9,525.48; Bernardston, \$4,501.96; Buckland, \$4,941.17; Charlemont, \$5,709.80; Colrain, \$8,894.11; Conway, \$7,025.05; Gill, \$3,074.51; Hawley, \$5,325.49; Heath, \$5,325.49; Leverett, \$4,172.55; Leyden, \$4,501.96; Monroe, \$1,976.47; New Salem, \$7,027.38; Northfield, \$6,862.74; Rowe, \$4,447.05; Shelburne, \$5,599.99; Shutesbury, \$4,392.16; Sunderland, \$3,541.06; Warwick, \$6,039.21; Wendell, \$5,215.68.

*Hampden County.*—Blandford, \$11,506.35; Brimfield, \$6,527.39; Chester, \$10,397.47; Granville, \$8,043.13; Hampden, \$3,733.33; Holland, \$3,242.03; Montgomery, \$2,986.91; Southwick, \$5,517.64; Tolland, \$3,820.96; Wales, \$2,750.85; Wilbraham, \$4,721.56.

*Hampshire County.*—Belchertown, \$12,352.93; Chesterfield, \$6,588.23; Cummington, \$5,407.83; Enfield, \$3,870.59; Goshen, \$3,129.41; Granby, \$5,270.58; Greenwich, \$4,282.35; Hadley, \$6,286.27; Hatfield, \$5,023.53; Huntington, \$5,073.29; Middlefield, \$4,835.34; Pelham, \$4,392.16; Plainfield, \$5,380.39; Prescott, \$4,117.64; Southampton, \$6,148.80; Westhampton, \$5,215.68; Williamsburg, \$4,776.23; Worthington, \$9,225.13.

*Middlesex County.*—Acton, \$6,368.62; Ashby, \$6,258.81; Ashland, \$4,172.55; Bedford, \$3,952.94; Boxborough, \$1,592.15; Burlington, \$3,513.72; Carlisle, \$4,721.56; Dunstable, \$3,952.94; Holliston, \$5,490.19; Hopkinton, \$7,247.05; Lincoln, \$4,392.15; Littleton, \$4,611.76; No. Reading, \$3,184.32; Pepperell, \$5,929.41; Sherborn, \$4,611.76; Shirley, \$5,050.98; Stow, \$4,941.17; Sudbury, \$5,490.19; Tewksbury, \$6,039.21; Townsend, \$7,686.27; Tyngsborough, \$3,843.13.

*Norfolk County.*—Bellingham, \$4,611.76; Medfield, \$4,392.16; Medway, \$4,387.24; Millis, \$4,172.55; Norfolk, \$4,392.16; Plainville, \$3,733.33; Wrentham, \$5,050.97.

*Plymouth County.*—Carver, \$7,981.70; Halifax, \$3,593.63; Hanson, \$4,188.21; Lakeville, \$4,719.27; Norwell, \$4,174.47; Pembroke, \$5,418.46; Plympton, \$3,257.52; Rochester, \$5,353.32; West Bridgewater, \$4,483.36.

*Worcester County.*—Ashburnham, \$8,454.90; Berlin, \$3,680.91; Bolton, \$5,819.61; Boylston, \$4,392.16; Brookfield, \$3,339.79; Charlton, \$12,314.94; Dana, \$4,940.34; Douglas, \$7,686.26; East Brookfield, \$2,034.68; Hardwick, \$9,443.12; Harvard, \$6,149.01; Holden, \$7,994.24; Hubbardston, \$8,235.29; Lancaster, \$6,478.42; Lunenburg, \$7,247.06; Mendon, \$3,507.18; New Braintree, \$5,380.39; No. Brookfield, \$8,235.78; Northboro, \$5,160.78; Oakham, \$4,941.17; Oxford, \$6,917.64; Paxton, \$3,318.38; Petersham, \$7,790.80; Phillipston, \$4,501.96; Princeton, \$7,905.88; Royalston, \$7,466.66; Rutland, \$7,879.62; Southboro, \$5,270.58; Sterling, \$7,905.87; Sturbridge, \$8,374.23; Sutton, \$9,223.53; Templeton, \$6,250.55; Upton, \$6,701.84; West Boylston, \$4,002.36; West Brookfield, \$5,996.50; Westminster, \$8,605.70.

#### CONTRACTS FOR THE CONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF AN APPROPRIATION

In November, 1929, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,633,750.00, this amount being twenty-five per cent of the appropria-



tion of \$6,535,000.00 for the fiscal year ending Nov. 30, 1928. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 6, 1929.

#### REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1928-1929

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, and by chapters 180 and 342, Acts of 1925, regulations were adopted on Jan. 30, 1929, and public notice thereof given, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. The regulations were in effect in the following counties during the periods stated: —

Barnstable County, Feb. 18 to Mar. 26, 1929.

Bristol County, Feb. 18 to Apr. 9, 1929.

Norfolk County, Feb. 18 to Apr. 9, 1929.

Plymouth County, Feb. 25 to Mar. 26, 1929.

Hampden County, Feb. 25 to Apr. 9, 1929.

Essex County, Mar. 1 to Apr. 9, 1929.

Middlesex County, Mar. 1 to Apr. 9, 1929.

Worcester County, Mar. 1 to Apr. 9, 1929, for Route 20 and roads to the south thereof; and to Apr. 23, 1929, for balance of roads in said county.

Hampshire County, Mar. 4 to Apr. 22, 1929.

Berkshire County, Mar. 4 to Apr. 29, 1929.

Franklin County, Mar. 4 to Apr. 29, 1929.

#### ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance has developed in importance beyond the amount of attention given a few years ago, because it is recognized that a systematic and intelligent control and development of all features of the roadside conditions is of value not only from the point of view of appearance but more particularly from the point of view of public safety. Telegraph, telephone and power lines or any other structures are not allowed within the highway layouts without permission from the Department.

The Department maintains as part of its organization a group of trained men to remove or trim trees, brush and undesirable growth, to remove growth that may obstruct vision at curves, intersections, or other points on the highway in order to render the operating conditions as safe as this factor may produce, and also with the idea of opening up vistas and other clearings at points of advantage. Careful consideration is given to the preservation and appearance of all growth within the layout, retaining such as is desirable and of keeping the roadsides clean. Any work of locating pole lines and of tree trimming by public service corporations within the layout is done wholly under supervision of the Department. In connection with all this work, there are three nurseries maintained in which the types of trees and shrubs suitable for use on the roadsides in Massachusetts are grown and made available for use by the Department.

During the past twenty-five years in which the State has conducted this work, 58,104 trees have been planted on the borders of the State highways. During this year the Department placed 1,977 trees and has continued the policy of planting quick growing trees and hedges in place of guard rails at suitable locations.

#### UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357, Acts of 1928.

The purpose of this act was to establish throughout the cities and towns basic uniformity in signs, signals and devices for the control of traffic on ways within the Commonwealth and to provide for the safe and expeditious movement of through traffic upon the State highway routes. This authority makes it possible for the Department to insure that all traffic control signals to be erected by the municipalities shall be properly located and operated as aids to traffic flow rather than causing obstruction to such movement and also makes possible the proper protection of through routes from dangerous interference from cross traffic by the use, where necessary, of the "through-way-stop" regulation.



In order to carry out the provisions of this act, the Department organized last year a traffic engineering section. During this year the section has been engaged in the investigation of the traffic control signal installations, signs and regulations desired to be installed and maintained by the cities and towns, and on all traffic matters for the Department. This section also made the traffic study to determine the volume, classes and direction of traffic on the highways.

During the present year a second bulletin was issued by the Department and designated "Bulletin No. 2. A standard Code for Traffic Signal Installation and Operation." This code provides a uniform basis for all traffic control signals in use by the Commonwealth, and is the standard required to be met by cities and towns when requesting approval by the Department of such signals which they desire to install and maintain.

The Department has installed one traffic control signal, namely, — at Pope's Corner, Danvers, on the Newburyport Turnpike (Route 1) at its intersection with Andover Street (Route 114). This installation is of the traffic actuated type.

#### PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 4SA and 4SB of chapter 280, Acts of 1925, which amends chapter 159, General Laws, 49 permits were granted during the year.

#### THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

*Applications, Licenses and Permits.* — Licenses were granted to 37 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,500 applications received for permits for the erection of advertising signs, 951 permits have been granted; and 203 permits were granted on applications filed previous to 1929. Two hundred and thirty-two applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 12 applications for permits were cancelled.

Of 2,784 renewal applications sent to those whose permits were to expire June 30, 1929, 2,568 were returned to the Department requesting renewal; and 131 requested that permits be cancelled. The number of renewal applications approved, to be in force until June 30, 1930, was 2,702. The total number of permits in force November 30, 1929, was 3,507.

*Receipts and Expenditures.* — The total receipts for the year ending Nov. 30, 1929, were \$17,495.13, and the expenditures were \$14,503.20.

*Removal of Signs.* — The regular work in the removal of signs has been carried on during the year, and 21,500 signs have been removed by the Department under authority of section 30-A, chapter 93, General Laws, from locations within the highways and from private property.

*Injunction.* — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

*Hearings.* — Hearings were given to officials of Kingston, Mansfield, Melrose, Norwood, Walpole, Watertown and Winchester, who had objected to the granting of permits for advertising signs in their respective towns and cities.



CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Acton	John J. Watkins	\$0 60	\$0 65	\$3 00	\$0 90	\$18 00	\$0 07	-
Agawam	The Lane Constr. Corp.	0 45	-	3 00	0 75	20 00	0 095	-
Amesbury	R. G. Watkins & Son	0 55	0 60	2 50	0 90	18 00	-	\$0 14
Amesbury	John J. Watkins	0 90	-	-	-	-	0 11	-
Andover	J. P. McCabe, Inc.	0 65	-	3 00	1 25	15 00	0 10	-
Andover	Perini & Ampollini	0 50	-	3 00	1 50	-	0 12	-
Attleborough, Nor-								
ton, Mansfield	Arute Bros., Inc.	0 60	0 75	2 50	1 00	22 00	0 10	-
Avon	Powers Bros.	0 70	0 75	2 00	1 00	20 00	0 11	-
Barnstable	Ashley & Loring	0 75	0 75	5 00	1 50	25 00	0 20	-
Bedford	Lawton Const. Co.	0 55	-	4 00	1 00	-	0 10	-
Bellingham	W. H. Hinman, Inc.	0 55	0 55	3 00	1 00	20 00	-	0 11
Beverly	J. Iafolla	0 55	-	2 50	1 00	20 00	0 09	-
Bedford	Warner Bros. & Goodwin	1 00	-	3 00	1 50	30 00	-	0 15
Bolton	Frank Lanza & Sons	0 55	0 50	2 00	1 00	20 00	0 105	-
Bourne	M. F. Roach & Sons, Inc.	0 70	-	5 00	1 00	25 00	0 125	-
Oxford	Frank Lanza & Sons	0 45	0 60	2 00	1 00	20 00	0 10	-
Boylston-Clinton	Chas. E. Horne	0 58	0 58	2 50	1 25	20 00	0 105	-
Brewster	S. W. Lawrence	0 60	0 60	4 00	1 00	20 00	0 20	-
Braintree, Wey-								
mouth, Hingham	Peerless Const. Co.	0 50	0 65	2 00	1 00	15 00	0 085	-
Brimfield	A. G. Bianchi Cons. Co.	0 70	0 85	3 00	1 00	25 00	-	0 16
Burlington	John A. Gaffey	0 75	1 00	3 00	1 00	20 00	0 10	-
Cambridge	Coleman Bros., Inc.	1 00	0 89	3 00	2 00	25 00	0 10	-
Andover	Reynolds Bros., Inc.	0 60	0 60	4 00	1 25	20 00	0 10	-
Andover	Reynolds Bros., Inc.	1 40	-	1 40	1 40	20 00	0 105	-
Carlisle	Lawton Const. Co.	0 65	0 65	2 50	1 00	20 00	0 08	-
Charlton-Oxford	C. Bianchi & Co., Inc.	0 50	0 50	2 25	1 15	25 00	0 115	-
Charlton-Stur-								
bridge	The Lane Const. Corp.	0 75	-	2 00	0 75	22 00	0 10	-
Chelsea	F. J. McCarthy Cont. Co.	0 65	-	5 00	1 20	20 00	0 095	-
Cheshire	C. B. Lindholm	1 00	1 00	5 00	-	-	-	-
Cheshire	The Lane Const. Corp.	0 60	0 50	3 00	1 75	22 00	0 10	-
Colrain-Shelburne	Perini & Ampollini	0 70	0 70	5 00	1 25	20 00	0 11	-
Concord	Greenough Const. Co.	0 80	-	0 80	1 00	20 00	0 10	-
Convers	McCarthy Bros.	0 90	0 90	3 00	1 15	20 00	0 10	-
Convers-Topsfield,								
Ipswich	Lawton Const. Co.	0 55	-	2 50	1 00	20 00	0 09	-
Dennis	Amos D. Bridges & Sons	0 50	0 60	0 50	1 00	20 00	0 20	-
Dennis	Washburn & Sheridan	0 65	0 65	5 00	1 50	20 00	0 20	-
Edham	Perini & Ampollini	0 35	0 50	10 00	1 00	18 00	0 085	-
Essex	Z. L. Canedy	0 75	-	4 00	1 50	20 00	0 12	-
Essex	Otis R. Mann	0 60	0 60	5 00	1 00	20 00	0 18	-
East Bridgewater	Frank Lanza & Sons	0 45	-	2 00	1 00	18 00	0 10	-
Easthampton	Warner Bros. & Goodwin	0 50	0 50	2 00	1 00	25 00	0 10	-
Easton-Sharon	C. Frangioso & Sons	0 55	0 60	4 00	1 25	20 00	-	0 12
Essex	Ralph E. Bull	0 75	0 75	2 00	1 00	18 00	0 11	-
Essex-Northfield	Kelleher Corp.	0 50	0 50	2 50	1 25	22 00	0 115	-
Essex	Octavius Menici	0 57	-	2 75	1 25	18 00	0 095	-
Essex	M. F. Roach & Sons	0 57	-	0 57	1 00	20 00	0 20	-
Florida-Savoy,								
Charlemont	D'Onfro Bros., Inc.	1 25	0 70	-	1 25	20 00	0 13	-
Essex	Dominic G. DiPietro	0 65	0 65	0 65	-	-	0 11	-
Framingham-								
Southborough	Middlesex Const. Co.	0 60	0 75	2 00	1 15	20 00	0 105	-
Framingham	Perini & Ampollini	0 40	1 00	3 00	1 00	15 00	-	0 12
Free town	Roger T. Fay, Inc.	0 50	0 75	2 00	1 00	-	-	0 14
Framingham	Fitchburg Conc. Const. Co.	0 80	0 80	5 00	1 25	20 00	0 11	-
Framingham	H. & J. P. Green Co.	0 75	0 80	3 00	1 25	25 00	0 12	-
Georgetown	Frank Lanza & Sons	0 63	-	2 00	1 00	22 00	0 10	-
Hampden	Welch & Moynihan	0 80	-	3 75	1 50	25 00	0 105	-
Hampden	Welch & Moynihan	1 00	-	3 75	1 15	20 00	0 11	-
Hampden-Millbury	Hagan, Thibodeau Const. Co.	0 70	0 50	5 00	1 30	22 00	0 12	-
Hampden	Kelleher Corp.	0 50	0 50	3 00	1 25	22 00	0 105	-
Hampden	Kelleher Corp.	0 50	-	2 50	1 25	25 00	0 11	-
Hampden	Antonio Pallato	0 50	-	4 00	0 75	30 00	0 11	-
Hampden	Warner Bros. & Goodwin, Inc.	1 50	0 70	5 00	1 25	25 00	0 11	-
Hampden	Warner Bros. & Goodwin, Inc.	0 50	-	5 00	1 00	25 00	0 10	-
Hampden	Washburn & Sheridan	1 00	1 00	5 00	1 50	25 00	0 20	-
Hampden	A. G. Bianchi & Co., Inc.	0 75	-	3 00	1 00	25 00	0 11	-
Hampden	Otis R. Mann	0 75	0 75	3 00	1 00	25 00	0 18	-
Hampden	A. Pallato	0 50	-	3 00	0 50	20 00	0 11	-
Hampden	Interstate Hy. Const. Co.	0 50	-	2 25	0 75	20 00	0 095	-
Hampden	Powers Bros.	0 75	-	2 50	0 90	18 00	0 105	-
Hampden	Marois Sand & Gravel Co.	0 70	-	4 00	1 25	25 00	0 13	-
Holland-Sturbridge	Waterbury Rd. Const. Co.	0 55	0 55	2 00	1 20	20 00	0 13	-
Holliston	Middlesex Const. Co.	0 60	-	2 00	1 10	25 00	0 11	-

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
-	-	-	\$0 70	-	\$1 00	-	-	-	\$0 65	-	-	\$20 00	\$0 60	
-	\$2 25	\$0 55	0 65	\$1 15	-	-	-	\$3 50	0 60	\$2 25	\$70 00	25 00	0 55	
-	-	0 45	0 50	-	0 90	-	-	2 75	-	-	50 00	18 00	0 65	
\$9 60	2 70	-	-	-	-	-	-	-	-	-	-	-	1 00	
-	2 50	0 50	0 65	1 05	-	-	-	-	0 80	-	65 00	28 00	0 90	
-	3 20	-	0 75	1 80	-	-	-	-	-	3 00	75 00	-	1 00	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	3 10	0 52	0 60	0 75	1 30	\$1 75	\$2 50	3 50	0 70	-	60 00	27 00	0 75	
-	2 50	-	-	-	1 00	-	4 00	-	-	2 00	-	30 00	0 85	
-	-	-	-	-	1 85	-	-	-	0 75	-	75 00	30 00	0 75	
-	2 40	-	0 60	-	-	-	-	-	-	-	70 00	-	0 90	
-	-	0 50	-	-	1 25	-	2 50	-	-	2 50	-	22 00	0 75	
-	2 40	0 50	0 60	-	1 00	-	-	-	-	-	60 00	-	0 80	
-	3 25	-	-	-	-	-	-	-	0 60	2 25	-	30 00	-	
-	3 25	-	-	-	1 25	-	2 50	-	-	2 00	-	25 00	0 80	
-	3 50	0 60	0 70	-	1 25	1 75	-	-	-	-	65 00	-	0 80	
-	2 70	-	-	-	1 10	-	-	-	-	-	-	-	0 65	
-	3 00	0 60	0 60	1 00	1 25	-	-	3 50	-	1 90	75 00	25 00	0 75	
-	-	0 75	0 85	-	1 25	-	-	-	0 75	-	75 00	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	2 10	0 60	0 60	-	1 25	2 25	2 50	3 50	0 50	-	60 00	15 00	0 65	
-	-	-	-	-	1 50	-	2 50	3 50	-	2 40	-	30 00	0 85	
-	2 00	-	0 52	-	1 25	-	-	-	1 00	-	75 00	-	1 00	
-	2 50	0 60	0 75	-	-	-	2 00	3 00	1 00	-	75 00	20 00	0 89	
-	2 75	0 60	-	-	-	-	-	-	-	-	75 00	30 00	0 75	
-	2 75	0 50	0 60	1 00	-	-	-	-	0 75	-	75 00	-	0 75	
-	-	0 60	-	-	0 90	-	1 75	-	0 55	-	85 00	20 00	0 70	
-	3 00	-	0 60	0 95	1 70	2 05	-	3 50	-	2 25	75 00	30 00	0 80	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	3 00	-	0 75	-	-	-	-	-	-	-	75 00	-	1 00	
9 35	2 35	0 75	0 85	-	2 25	-	-	-	0 65	-	75 00	-	1 35	
-	-	-	-	-	-	-	-	-	0 65	-	-	30 00	1 00	
-	2 75	-	0 70	-	1 25	-	2 25	3 50	0 60	1 50	70 00	25 00	0 70	
-	2 90	0 50	0 60	1 50	1 20	-	-	4 00	0 60	-	75 00	25 00	1 00	
-	2 30	0 50	0 60	1 00	1 20	-	-	-	0 60	-	60 00	-	1 00	
-	2 45	-	-	-	-	-	-	-	0 70	1 25	-	25 00	1 15	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	2 30	1 00	0 60	1 00	1 10	1 50	2 25	3 50	0 60	-	60 00	20 00	0 60	
-	-	-	-	-	1 10	-	-	-	0 60	-	70 00	-	-	
-	-	0 75	-	-	1 25	-	-	-	0 80	-	75 00	25 00	-	
-	2 30	0 75	0 75	-	1 00	3 00	4 00	-	0 60	-	60 00	-	0 50	
-	3 00	0 50	0 60	-	-	-	-	-	-	2 00	75 00	35 00	1 10	
-	-	0 65	-	-	1 25	-	2 00	-	0 60	-	-	-	1 00	
-	2 85	0 45	0 55	0 90	1 10	1 50	-	3 50	0 60	-	60 00	25 00	0 65	
-	2 50	-	-	-	1 10	-	-	-	1 00	2 00	70 00	30 00	0 50	
-	-	-	-	-	1 15	-	-	-	0 60	1 00	-	22 00	0 80	
-	3 05	0 70	0 75	1 00	1 25	2 00	2 70	3 90	0 50	-	70 00	25 00	0 75	
-	2 80	0 60	0 70	-	1 15	1 75	2 25	3 50	0 55	-	75 00	28 00	0 85	
-	2 60	0 50	-	-	0 95	1 40	2 25	-	0 70	2 00	60 00	30 00	0 77	
-	-	-	-	-	1 25	-	2 50	-	-	-	60 00	25 00	0 80	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	3 60	-	0 75	-	1 50	2 00	2 50	3 75	0 60	2 00	-	25 00	1 50	
-	2 85	-	-	-	-	-	-	-	0 60	1 50	-	-	0 75	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	2 70	0 55	0 60	-	1 15	-	2 75	-	0 60	-	65 00	25 00	0 79	
-	-	0 50	-	-	1 25	-	2 50	-	-	2 00	50 00	15 00	0 50	
-	-	-	-	-	-	-	-	3 50	0 75	-	-	-	0 85	
-	3 50	-	0 70	-	1 20	-	-	-	-	2 10	-	25 00	0 90	
-	3 40	-	0 70	-	1 40	-	2 25	4 00	-	2 50	80 00	30 00	0 90	
-	2 90	0 55	0 65	-	1 25	-	-	-	0 60	2 50	70 00	35 00	0 80	
-	2 85	0 50	0 60	-	-	-	-	-	-	-	75 00	-	1 35	
-	2 95	0 55	0 60	-	1 15	1 90	-	-	-	-	70 00	20 00	1 50	
-	3 20	-	0 60	1 00	1 00	2 00	1 75	2 50	-	2 45	80 00	30 00	0 90	
-	2 35	-	-	-	-	-	-	-	-	-	-	30 00	0 50	
-	2 50	0 60	0 70	-	1 10	-	2 25	-	0 55	2 00	70 00	30 00	0 80	
-	2 50	0 50	0 60	0 75	0 60	-	1 00	-	-	-	75 00	-	0 60	
-	2 25	-	1 00	2 00	-	-	-	-	1 00	-	-	-	1 00	
-	2 05	0 50	0 60	1 00	1 10	-	-	3 00	0 50	-	60 00	30 00	0 60	
-	-	-	-	-	1 25	-	-	-	-	-	75 00	-	1 00	
-	2 80	-	-	-	1 25	-	2 50	-	-	2 00	-	30 00	0 90	
-	-	0 55	-	-	0 65	-	-	-	0 75	-	80 00	-	1 50	
-	2 60	0 60	0 75	0 75	0 75	-	-	-	0 75	2 15	80 00	20 00	0 85	
-	2 25	0 55	0 65	-	1 10	-	-	-	0 55	-	53 00	-	0 45	
-	2 50	0 45	0 55	1 00	-	-	-	-	-	-	65 00	-	0 90	
-	2 90	0 60	0 75	-	2 50	-	-	-	-	2 50	75 00	-	0 45	
-	3 55	-	-	-	1 00	-	2 00	3 00	0 50	2 10	-	35 00	0 70	
-	2 50	-	0 60	-	-	-	-	-	1 00	-	60 00	-	0 85	



CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Ma-sonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Holyoke-Westfield	The Lane Constr. Corp. . .	\$0 50	\$0 50	\$2 25	\$2 00	\$22 00	\$0 095	-
Hudson . . .	John Iafolia . . .	0 65	0 60	3 00	0 90	18 00	0 10	-
Kingston . . .	A. D. Bridge's Sons, Inc. . .	0 65	-	4 00	1 00	25 00	0 12	-
Kingston . . .	A. D. Bridge's Sons, Inc. . .	0 50	-	0 50	1 00	20 00	0 11	\$0 20
Lakeville . . .	N. & B. Crushed Stone & Gravel Co. . .	0 58	0 68	2 00	1 00	19 75	0 11	-
Lancaster . . .	A. M. Custance & Co., Inc. . .	0 65	0 65	3 00	1 15	20 00	0 095	-
Lanesborough	The Lane Const. Corp. . .	0 60	-	0 60	1 50	22 00	0 17	-
Lanesborough-New Ashford . . .	The Lane Const. Corp. . .	0 80	0 90	2 25	2 00	22 00	0 18	-
Leominster . . .	Fitchburg Cone. Const. Co. . .	0 60	-	-	1 50	20 00	0 11	-
Lexington . . .	John A. Gaffey & Son . . .	0 55	-	2 50	0 95	-	0 10	-
Ludlow . . .	A. G. Bianchi Const. Co. . .	0 50	0 50	0 50	1 00	22 00	0 12	-
Lunenburg . . .	John F. Rooney . . .	0 55	-	1 00	1 00	18 00	-	0 08
Lynn . . .	D. Cerulli & Son . . .	0 45	0 90	2 00	0 90	15 00	0 08½	-
Lynnfield . . .	M. McDonough . . .	0 60	-	3 00	1 25	25 00	0 10½	-
Lynnfield-Peabody Danvers . . .	Warren Bros. Roads Co. . .	0 76	-	4 00	1 40	23 00	0 12	-
Malden . . .	C. M. Callahan, Inc. . .	0 60	-	3 00	1 00	20 00	0 08	-
Marion-Wareham	Charles I. Hosmer . . .	0 80	0 80	14 00	1 50	20 00	0 13	-
Marlborough . . .	Middlesex Const. Co. . .	0 65	-	4 00	1 00	-	-	-
Mattapoisett . . .	Watkins Bros. . .	0 60	1 00	4 00	1 00	14 00	0 12	-
Maynard-Stow . . .	Thomas Mulcare, Inc. . .	-	-	5 00	-	-	0 30	-
Medfield . . .	Edward O'Toole . . .	0 75	0 80	3 00	1 50	12 00	0 10	-
Medway . . .	Iron Trap Rock Co. . .	0 52	-	2 00	1 25	20 00	0 10	-
Mendon . . .	John F. Rooney . . .	0 55	-	2 50	1 00	20 00	-	0 08
Milford . . .	Frank Lanza & Sons . . .	0 60	-	2 00	1 00	20 00	0 10½	-
Milford . . .	C. Bianchi & Co., Inc. . .	0 65	-	6 00	1 00	25 00	-	-
Milford . . .	G. Bonazzoli & Sons . . .	0 80	-	2 75	1 25	20 00	0 13	-
Milford-Hopedale-Upton . . .	R. H. Newell Co. . .	0 80	0 90	2 25	1 25	25 00	0 12	-
Millbury . . .	C. E. Horne . . .	1 50	-	1 50	-	20 00	-	-
Millis . . .	Franklin Const. Co. . .	0 50	-	01	0 75	17 00	0 10	-
Millville . . .	Henry Goulet . . .	1 00	-	3 00	1 00	25 00	0 12	-
Monson-Palmer . . .	Raymond A. Bergesson . . .	1 00	1 25	5 00	1 50	25 00	0 12	-
Montague . . .	Kelleher Corp. . .	0 50	0 50	0 50	1 00	22 00	0 10	-
Nantucket . . .	John C. Ring . . .	1 00	1 00	1 00	1 00	25 00	0 35	-
Needham . . .	John Iafolia Const. Co. . .	0 76	-	0 76	1 00	20 00	0 085	-
Newbury . . .	Merritt, Chapman & Scott . . .	0 60	0 60	15 00	1 00	20 00	0 10	-
Newbury . . .	Lincoln & Belding . . .	0 70	-	4 00	1 50	20 00	-	0 15
Newton . . .	Raimo & Panakio . . .	0 45	-	1 00	1 00	18 00	0 09	-
Newton-Wellesley	F. T. Ley Co. . .	1 40	-	7 00	2 80	-	0 18	-
North Adams . . .	The Lane Constr. Corp. . .	0 50	0 65	3 25	2 00	25 00	0 11	-
North Andover . . .	P. J. Holland . . .	0 60	0 70	2 50	1 50	20 00	-	-
Oxford . . .	Raimo & Panakio . . .	0 60	0 70	2 50	1 00	18 00	0 11	-
Palmer . . .	A. G. Bianchi . . .	1 00	0 50	2 00	1 00	-	0 12	-
Peabody . . .	A. Mogavero . . .	0 70	-	2 00	1 25	35 00	0 095	-
Pembroke . . .	E. M. Miskell . . .	0 70	0 80	3 00	1 00	20 00	0 11	-
Pepperell . . .	J. E. Watkins Co. . .	0 50	0 60	2 50	0 75	20 00	0 07	-
Petersham . . .	Catanese Const. Co. . .	0 65	0 70	3 00	1 00	25 00	-	0 11
Phillipston . . .	Warner Bros. & Goodwin, Inc. . .	0 50	-	2 00	1 00	25 00	-	0 15
Plymouth . . .	Coleman Bros., Inc. . .	0 70	1 00	4 00	1 70	22 00	0 13	-
Provincetown . . .	M. F. Roach & Sons, Inc. . .	1 00	-	5 00	1 00	25 00	0 25	-
Provincetown . . .	M. F. Roach & Sons, Inc. . .	0 75	0 80	5 00	1 00	20 00	0 20	-
Quincy . . .	M. McDonough Co. . .	0 50	1 00	3 00	1 25	20 00	0 11	-
Randolph . . .	Powers Bros. . .	0 75	-	2 00	1 00	18 00	-	0 12
Rehoboth . . .	Z. L. Canedy . . .	0 75	0 90	4 00	2 00	15 00	-	0 12
Rehoboth-Seekonk	Jos. McCormick . . .	0 75	0 80	2 50	1 25	25 00	0 12	-
Royalston . . .	Raymond J. Andrews . . .	0 70	0 85	3 75	1 50	25 00	-	0 13
Salem . . .	Higgins & Collins Co. . .	0 90	-	4 00	-	-	0 11	-
Salisbury . . .	R. G. Watkins & Son . . .	0 65	-	3 00	1 00	20 00	0 10	-
Saugus . . .	M. McDonough Co. . .	1 00	-	-	1 00	25 00	0 095	-
Savoy . . .	Kelleher Corp. . .	0 80	0 95	3 00	1 50	-	-	-
Sharon . . .	C. E. Horne . . .	0 70	0 80	1 75	1 00	20 00	-	0 13
Sherborn . . .	Frank & Frank Const. Co. . .	0 65	-	3 00	1 00	20 00	0 10	-
Spencer . . .	Hagan-Thibodeau Const. Co. . .	1 00	1 00	3 00	1 00	18 00	-	0 15
Sterling . . .	Fitchburg Conc. Const. Co. . .	0 75	-	-	-	-	-	0 11
Sterling . . .	Frank Serretto & Sons, Inc. . .	0 55	0 50	3 00	0 75	16 00	-	0 16
Stoneham-Wakefield . . .	T. J. McCue . . .	0 63	-	4 00	1 00	20 00	0 09	-
Stoneham-Winchester . . .	Raimo & Panakio . . .	0 70	-	2 25	1 00	18 00	0 09	-
Sunderland . . .	Kelleher Corp. . .	0 50	-	3 00	1 25	25 00	0 125	-
Sutton . . .	G. Bonazzoli & Son . . .	1 00	-	5 00	1 50	25 00	0 12	-
Taunton . . .	John Iafolia Const. Co. . .	0 45	0 50	3 00	1 00	18 00	0 10	-
Townsend . . .	Lawton Const. Co. . .	0 60	0 55	0 60	1 00	20 00	0 075	-
Watertown . . .	T. J. McCue . . .	0 50	-	5 00	-	-	-	-

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929—Continued

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE								
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.					
-	\$2 05	\$0 75	\$1 00	-	\$1 25	\$1 75	\$2 25	\$3 50	\$0 55	\$1 75	\$90 00	\$25 00	\$1 10
-	2 85	0 55	0 60	-	1 15	1 50	-	-	0 60	-	65 00	-	0 70
-	3 05	0 50	0 60	-	1 25	1 60	2 25	3 50	0 60	-	70 00	30 00	0 85
-	2 90	0 55	0 70	\$1 10	1 00	-	-	-	0 55	-	70 00	25 00	0 75
-	2 95	-	-	-	1 15	1 85	-	-	2 00	-	-	-	0 70
-	3 00	-	-	-	1 05	-	-	-	-	2 20	65 00	20 00	0 75
\$9 00	3 75	-	-	-	1 25	-	2 25	3 00	0 60	2 50	-	30 00	0 80
9 75	4 00	-	-	-	1 25	-	2 25	3 00	0 60	-	-	30 00	0 85
-	3 10	-	1 50	-	-	-	-	-	-	-	-	-	0 60
-	2 10	-	0 50	0 90	1 25	-	-	-	0 60	-	65 00	25 00	0 85
-	3 00	-	-	-	1 00	-	-	-	0 60	2 50	-	28 00	1 00
-	-	-	-	-	1 00	-	1 50	3 00	-	1 60	60 00	20 00	0 50
-	2 00	0 50	0 60	-	-	-	-	-	0 55	-	55 00	-	0 70
-	2 30	0 55	0 65	-	1 00	-	-	-	0 80	1 25	-	30 00	0 85
-	2 39	0 48	0 61	1 00	1 15	-	-	2 73	0 65	-	65 00	27 00	0 87
10 00	2 05	0 45	0 60	-	1 00	1 50	2 00	-	-	-	70 00	-	0 75
-	3 80	-	-	-	1 30	-	-	-	-	-	80 00	30 00	1 20
10 50	-	0 50	0 60	-	1 10	-	2 50	-	-	-	60 00	-	0 75
-	2 75	0 75	0 75	1 50	1 65	-	2 25	-	0 75	-	50 00	25 00	0 85
-	-	-	-	-	-	-	-	-	-	-	-	30 00	2 00
-	3 00	0 60	-	-	1 50	1 50	-	-	-	-	-	12 00	0 90
-	2 60	0 65	0 80	-	1 25	-	2 10	-	0 60	-	72 50	22 00	0 75
-	-	-	-	-	1 00	-	-	-	-	1 60	-	20 00	0 60
-	2 65	-	0 55	0 90	1 10	1 60	-	-	-	2 00	60 00	-	0 80
9 50	-	0 55	0 60	1 00	-	-	-	3 25	-	-	75 00	30 00	0 80
-	2 75	-	1 10	-	1 25	-	2 50	3 50	0 60	-	75 00	25 00	1 00
-	3 25	0 65	0 70	-	1 25	2 00	2 50	4 00	0 85	2 25	90 00	30 00	1 25
12 00	-	-	-	-	-	-	-	-	-	-	-	-	1 25
-	2 45	0 45	0 50	1 00	1 25	-	-	-	-	-	50 00	-	0 70
-	-	-	-	-	1 50	-	-	2 50	-	2 25	-	25 00	1 25
-	3 25	-	1 00	-	-	-	-	-	-	2 50	70 00	24 00	1 25
-	2 30	-	-	-	-	-	-	-	0 50	-	-	25 00	0 50
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 25	0 40	-	-	0 90	1 20	-	-	-	1 00	60 00	20 00	0 60
-	2 70	1 00	-	-	1 50	-	-	-	1 00	-	75 00	28 00	1 30
-	-	0 70	0 80	-	-	-	-	-	-	-	70 00	28 00	0 85
-	2 15	-	0 50	1 00	1 00	-	-	-	-	-	60 00	-	0 70
-	4 48	-	0 93	-	-	-	-	-	-	3 50	84 00	27 11	1 75
10 50	3 45	0 75	0 85	-	1 25	1 75	-	4 00	0 55	-	85 00	30 00	0 80
9 25	2 50	1 00	1 00	1 50	2 00	-	-	4 00	0 80	3 00	80 00	30 00	0 90
-	3 00	0 50	0 60	-	1 25	-	2 00	-	-	1 75	70 00	25 00	0 80
-	-	-	-	-	-	-	-	-	-	2 20	-	-	0 90
-	2 10	0 45	-	-	0 95	-	-	2 75	-	-	75 00	-	1 00
-	2 90	-	-	-	1 25	-	2 00	-	0 75	-	100 00	25 00	0 90
-	-	-	0 50	-	1 25	1 50	-	3 00	0 60	-	60 00	20 00	0 60
-	-	-	-	-	1 25	-	-	-	-	2 15	-	30 00	0 80
-	-	-	0 60	1 00	1 25	-	-	3 00	-	1 75	70 00	35 00	0 60
-	3 10	0 60	0 65	1 00	1 00	1 40	2 00	5 00	0 80	-	80 00	30 00	1 20
-	-	-	-	-	1 25	-	-	-	0 65	-	65 00	-	-
-	-	-	-	-	1 30	-	-	-	0 65	-	-	-	-
-	2 40	0 60	-	-	1 00	-	-	-	0 60	-	65 00	-	1 25
-	-	0 50	-	-	-	-	-	-	-	2 00	65 00	30 00	0 80
-	2 60	-	-	-	-	-	-	-	-	1 75	-	30 00	0 90
9 90	2 90	0 55	0 65	-	1 25	-	2 10	3 25	0 70	-	80 00	25 00	0 90
-	-	-	-	-	1 25	-	2 25	3 50	-	1 50	-	30 00	1 05
8 65	0 75	-	-	-	-	-	-	-	-	-	-	-	1 00
-	2 60	-	-	-	0 90	-	-	-	-	-	50 00	-	0 70
-	2 20	-	0 80	-	-	-	-	-	-	-	-	-	1 25
-	-	-	-	-	-	-	-	-	-	2 25	-	30 00	-
-	-	-	-	-	1 00	1 75	-	-	0 60	1 00	-	-	0 80
-	2 65	0 45	0 55	-	1 00	-	-	3 00	0 60	-	80 00	-	0 87
-	-	-	-	-	1 25	-	2 00	-	-	2 10	-	18 00	0 90
-	3 10	-	-	-	-	-	-	-	0 60	-	-	25 00	1 00
-	-	-	-	-	-	-	2 25	-	-	1 00	-	21 00	0 50
-	2 20	0 60	0 70	1 00	1 20	2 00	-	1 50	-	-	60 00	-	0 80
-	2 00	0 48	0 55	-	1 10	1 50	-	-	0 70	-	60 00	-	1 00
-	2 65	-	-	-	-	-	-	-	-	-	-	30 00	0 85
-	3 35	-	-	-	1 25	-	-	-	0 60	2 50	80 00	30 00	1 00
-	2 90	0 45	0 55	-	0 90	-	-	-	-	-	55 00	-	0 80
-	-	-	-	-	0 90	1 40	-	3 25	-	-	-	20 00	0 65
9 00	-	-	-	-	-	-	-	-	-	-	-	-	0 78



CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Wayland . .	D. Cerulli & Son . .	\$0 49	-	\$2 00	\$0 75	\$15 00	0 095	-
Westborough . .	Frank & Frank Const. Co. . .	0 55	\$0 50	3 00	1 25	18 00	0 10	-
Westborough . .	Hudson Const. Co. . .	0 65	0 70	2 50	1 00	20 00	0 11	-
West Boylston . .	Hagan-Thibodeau Const. Co. . .	1 20	1 20	1 20	1 30	20 00	-	\$0 13
West Bridgewater . .	Washburn & Sheridan . .	0 50	-	3 00	1 50	20 00	-	0 13
Westford . .	Antonio Palloto . .	0 60	0 60	4 00	0 75	20 00	0 08	-
Westford . .	Greenough Const. Co. . .	0 80	0 60	4 00	1 50	20 00	0 10	-
Weston . .	Greenough Const. Co. . .	0 80	0 70	4 00	1 00	20 00	0 10	-
West Springfield . .	The Lane Constr. Corp. . .	0 55	-	3 00	1 00	25 00	0 095	-
West Tisbury . .	Washburn & Sheridan . .	1 00	-	5 00	1 50	20 00	0 25	-
Westwood . .	Hudson Const. Co. . .	0 85	-	3 00	-	-	0 12	-
Wilbraham . .	Dracut Const. Co. . .	0 85	0 60	3 50	1 25	25 00	0 11	-
Wrentham . .	T. J. Quinn & Sons. . .	0 75	-	2 50	1 25	20 00	0 11 <sup>3</sup> / <sub>4</sub>	-
Yarmouth . .	Washburn & Sheridan . .	0 65	-	4 00	-	-	0 20	-





REGISTRY OF MOTOR VEHICLES

Nearly all phases of the work of the Registry of Motor Vehicles have shown a normal yearly increase. The total receipts turned over directly by the Registry for fees have been materially decreased by the reduction of 70 per cent in registration fees resulting from the adoption of the gasoline tax in this State as provided in chapter 316, Acts of 1928. This loss, however, is fully offset by the revenue received from the gasoline tax which is credited to the Highway Fund but is collected through the Department of Corporations and Taxation.

The law relating to compulsory motor vehicle liability insurance occasions much extra work in connection with registrations. Chapter 379, Acts of 1928, providing for an excise tax from Jan. 1, 1929, has also added considerable detail work, as this law requires the Registrar to furnish a copy of each registration record to the Commissioner of Corporations and Taxation. This official forwards the information on cards to the various boards of assessors for use as the basis of the excise tax bill sent to the owner of each motor registered.

The Registry of Motor Vehicles has endeavored by every means available to secure strict enforcement of the motor vehicle laws to produce greater safety on the highways and to reduce accidents to both persons and property. This office has cooperated with the various safety organizations throughout the State in impressing upon the motoring public and pedestrians the necessity for caution when riding or walking on the highways.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow: —

	1928	1929
Certificates of registration issued (passenger cars, commercial vehicles and motor cycles) . . . . .	890,251	1,023,084
Licenses to operate issued . . . . .	870,160	944,338
Examinations of applicants for licenses . . . . .	154,594	183,758
Licenses and registrations revoked and suspended . . . . .	40,814	53,133
Licenses revoked for driving under influence of liquor . . . . .	5,071	5,381
Total number of applications handled . . . . .	1,876,174	2,106,564
Gross receipts from fees . . . . .	\$13,420,453.05	\$6,498,854.72

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures indicate an increase of nearly 15 per cent in both passenger and commercial vehicle registrations. The motor cycle registrations continue to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1928	1929
Passenger cars . . . . .	4,889	31,360	90,580	251,570	663,858	784,453	903,648
Commercial vehicles . . . . .	—	—	12,053	52,968	100,480	99,142	113,268
Motor Cycles . . . . .	553	3,358	9,520	15,142	10,333	6,656	6,168
Totals . . . . .	5,442	34,718	112,153	319,680	774,671	890,251	1,023,084

EXAMINATIONS FOR LICENSES

Examinations of applicants for licenses to operate motor vehicles were held at 54 points in the State, with the results as tabulated below: —

	1928	1929
Operators passed . . . . .	106,942	122,887
Operators unfit . . . . .	22,664	33,104
Restriction, removal, passed . . . . .	21,642	22,808
Restriction, removal, unfit . . . . .	2,621	3,717
“Competency” passed . . . . .	682	1,144
“Competency” unfit . . . . .	43	98
Total examinations . . . . .	154,594	183,758

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles assist in the distribution of number plates, the issuing of licenses and furnishing general information relative to the motor vehicle laws. In 1929 the Registrar began to give hearings at stated intervals at the branch offices in Pittsfield, Springfield, Worcester, Lawrence, Lowell, Fall River and New Bedford, so that persons whose licenses or rights have been suspended or who, for other reasons, wish an appointment with the Registrar, may be heard by him or by his deputy or assistant. Each branch office supervises the work of the examiners and investigators and of law enforcement in its district. The following table gives approximate figures regarding applications received at the branch offices and at the central office at Commonwealth Pier 5, Boston: —

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.					
Boston:	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Counter . . .	237,000	—	112,000	95,000	444,000
Mail . . .	161,000	—	461,000	37,000	659,000
Examinations . . .	—	51,000	—	20,000	71,000
Pittsfield . . .	24,500	4,100	14,000	10,000	52,600
Springfield . . .	80,000	15,000	43,000	35,000	173,000
Worcester . . .	70,000	11,500	38,000	31,000	150,500
Lawrence . . .	33,000	5,800	23,000	14,000	75,800
Lowell . . .	25,000	4,700	17,000	10,000	56,700
Fall River . . .	23,000	5,600	17,500	9,800	55,900
New Bedford . . .	24,000	3,800	20,000	9,800	57,600
Lynn . . .	58,500	12,000	35,000	26,000	131,500
Quincy . . .	28,000	8,200	19,000	15,000	70,200
Brockton . . .	38,000	3,000	24,000	19,000	84,000
Hyannis . . .	9,300	2,400	4,300	5,200	21,200
Nantucket <sup>1</sup> . . .	1,200	—	—	—	1,200
Oak Bluffs <sup>1</sup> . . .	2,300	—	—	—	2,300
Totals . . .	814,800 <sup>3</sup>	127,100	827,800	336,800 <sup>2</sup>	2,106,500

A new branch office was opened in Greenfield on August 30, 1929, but the work of this office for the current year is included in that of the Springfield office as the new branch is a sub-office coming under the jurisdiction of the Springfield office.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

NOTICES OF CANCELLATION OF INSURANCE POLICIES RECEIVED AND INTENTS TO REVOKE MAILED

	1928	1929
(a) For non-payment of premiums . . . . .	38,359	49,846
(b) For other reasons . . . . .	16,109	15,755
Total . . . . .	54,468	65,601
Revocations . . . . .	16,782	25,596
Sets of number plates returned . . . . .	53,460	97,036

It is interesting to note that the receipt of 65,601 notices of cancellation from insurance companies required the mailing of the same number of notices of intent

<sup>1</sup> Licenses and miscellaneous applications included in counter figures.  
<sup>2</sup> This figure includes approximately 200,000 number plate reissues.  
<sup>3</sup> Does not include reissues (see Miscellaneous).



to revoke; that approximately 17,000 of these cases were adjusted by the filing of certificates of insurance by a new company; approximately 20,000 were adjusted by the filing of reinstatement certificates from the same company; approximately 2,800 by the surrender of number plates prior to the effective date of cancellation; and approximately 26,000 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of these plates to the various insurance companies covering the registrations involved.

#### AIRCRAFT

By chapter 388, Acts of 1928, the powers and duties of the Department and the Registrar in regard to the legislation of aircraft and the licensing of pilots have been extended. This change in the law and the progress made in the industry itself have resulted in a rapid increase in the volume of this work.

Non-resident pilots and aircraft registered outside the Commonwealth now come under the jurisdiction of the Registrar shortly after entering the State. The filing of statements is required describing the aircraft and giving facts concerning licenses from other authorities. If these credentials are satisfactory and the condition of the aircraft meets the requirements of the State laws, permits are issued allowing the pilots to continue the operation of such aircraft in the Commonwealth. The work of investigating the credentials before the issuance of such permits is as great as that involved in the registration of Massachusetts aircraft under the law.

All landing fields, whether public or private, in Massachusetts are now under the supervision of the Department of Public Works, in accordance with the provisions of chapter 388, Acts of 1928, which authorizes said Department to prohibit or allow the use of such fields. As a basis for action in such matters it has been necessary to have surveys and plans of such fields made by the engineers of the Department under the supervision of the Registrar and the Supervisor of Aviation.

The following figures give an indication of the work involved: —

	1928	1929
Pilots' licenses issued . . . . .	51	42
Airplanes registered . . . . .	18	36
Pilots' license fees received . . . . .	\$435	\$355
Airplane registration fees received . . . . .	\$270	\$540
Pilots examined for licenses . . . . .	—	36
Aircraft examined for repairs . . . . .	—	60
Pilots' permits issued . . . . .	—	173
Aircraft permits issued . . . . .	—	135
Suspensions of licenses, registrations and rights to operate . . . . .	11	41
Court convictions for violations of aircraft laws . . . . .	—	6
Surveys of fields for airports . . . . .	—	47
Flying fields approved . . . . .	—	3
Flying fields disapproved . . . . .	—	14
Investigations made by aircraft inspectors . . . . .	—	313
Airplane accidents:		
Crack-ups . . . . .	—	68
Non-fatal . . . . .	—	19
Fatals . . . . .	—	8
Persons injured . . . . .	—	29
Persons killed . . . . .	—	13
Caused by motor failure . . . . .	—	28
Structural failure . . . . .	—	10
Improper operation and other reasons . . . . .	—	57

#### INSPECTION OF MOTOR VEHICLE EQUIPMENT

On account of the small number of inspectors available for the work, the enforcement of the provisions of the motor vehicle law relating to equipment has been less strict than in previous years. Approximately ten men were engaged exclusively in this work instead of sixteen to thirty in previous years.

Headlighting

Continuing the policy of approving complete headlamps only, the Registrar issued approval of two new headlamps as follows: (1) a single filament, fixed beam, headlamp and (2) a double filament, tilting beam, headlamp; and extensions of approval certificates already in force, as follows: (1) a single filament, fixed beam, headlamp and (2) five double filament, tilting beam, headlamps. There is a tendency toward the tilting beam type and the proper design of the headlamp so that focusing mechanisms may be eliminated. In addition, a large number of headlamps or other headlighting devices including shields, various patented fixtures, lenses, reflectors, and complete units submitted were rejected for justifiable reasons.

Rear Lamps

Nine rear lamps were approved by the Registrar during the year. Of these none were of the single lamp type, but six were combined with stop signals only, and three with stop signals and backing lights.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

The deaths caused by motor vehicles in 1929 numbered 777, an increase of 62 or 8.6 per cent as compared with the previous year. The record of persons killed and injured in motor vehicle accidents in 1928 and 1929 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1928	1929	1928	1929
Pedestrians by autos . . . . .	432	432	17,418	18,090
Pedestrians by motor cycles . . . . .	3	4	25	35
Pedestrians near street cars . . . . .	12	11	45	31
Occupants of autos . . . . .	202	249	23,077	25,801
Occupants of autos at railroad crossings . . . . .	21	24	76	47
Occupants of motor cycles . . . . .	22	27	423	565
Bicycle riders . . . . .	10	14	691	955
Occupants horse-drawn vehicles . . . . .	5	5	303	302
Coasters (on sleds) . . . . .	8	9	143	285
Coasters (on wheels) . . . . .	0	2	0	0
Totals . . . . .	715	777	42,201	46,111
	Children Killed		Children Injured	
	1928	1929	1928	1929
Boys . . . . .	144	137	6,712	7,294
Girls . . . . .	62	60	2,950	3,292
Totals . . . . .	206	197	9,662	10,586

Number of Collisions

	1928	1929
Autos v. pedestrians . . . . .	17,171	17,585
Autos v. autos . . . . .	19,289	20,819
Autos v. horse-drawn vehicles . . . . .	336	392
Autos v. bicycles . . . . .	703	959
Autos v. trolley cars . . . . .	355	447
Autos v. poles, trees, etc. . . . .	1,734	2,869
Autos v. trains . . . . .	68	68
Autos v. motor cycles . . . . .	385	517
Autos v. sleds . . . . .	128	255
Motor cycles v. pedestrians . . . . .	23	40
Totals . . . . .	40,192	43,958



58		P.D. 54
		19281929
In the daytime . . . . .	27,534	29,645
After dark . . . . .	12,658	14,313
Totals . . . . .	40,192	43,958

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1929 was 35,014 as compared with 33,228 received in 1928. Under the requirements of section 29, chapter 90, General Laws, 17,186 similar reports of accidents were received from Police Departments throughout the state in 1929 as against 15,268 received in 1928.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered <sup>1</sup>	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,631	15,143	319,774	481	21,182	361,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,019,460	6,168	1,025,628	777	46,111	944,338	53,133	5,381

<sup>1</sup> Passenger cars and commercial vehicles.

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations and examinations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports: —

Classification of Reports

	19281929
Accidents, fatal . . . . .	714747
Accidents, non-fatal . . . . .	2,1122,455
Accidents, brief reports . . . . .	1,3051,445
General reputation . . . . .	3,2883,302
Miscellaneous . . . . .	6,1936,194
Totals . . . . .	13,61214,143
Complaints filed . . . . .	14,75610,178
Garages inspected . . . . .	8,2072,897
Headlight and other violations reported . . . . .	71,17448,693
Prosecutions conducted . . . . .	888825
Amount of fines . . . . .	\$42,244\$38,765

## REVOCATIONS AND SUSPENSIONS

	1928	1929
Licenses suspended . . . . .	9,562	12,120
Licenses revoked . . . . .	3,995	4,014
Rights suspended . . . . .	4,389	4,174
Certificates suspended . . . . .	17	9
Certificates revoked . . . . .	20,679	30,500
Certificates and licenses suspended . . . . .	72	45
Certificates and licenses revoked . . . . .	1,828	2,046
Certificates revoked and rights suspended . . . . .	157	157
Rights in Massachusetts suspended . . . . .	115	68
Totals . . . . .	40,814	53,133
Resulting from investigations . . . . .	12,714	16,040
Resulting from court convictions . . . . .	10,129	9,985
Resulting from Police complaints . . . . .	1,075	1,755
Resulting from Judges' complaints . . . . .	21	46
Resulting from State Police complaints . . . . .	81	199
Resulting from Insurance cancellations . . . . .	16,794	25,108
Totals . . . . .	40,814	53,133

*Character of Offences*

	1928	1929
Reckless and endangering . . . . .	2,138	2,209
Liquor convictions . . . . .	4,240	4,575
Going away after accidents . . . . .	479	474
Without authority . . . . .	557	669
Racing . . . . .	5	6
Improper person, liquor . . . . .	831	806
Improper person . . . . .	6,184	5,570
Improper operation . . . . .	5,764	8,297
Two overspeeds . . . . .	260	381
Three overspeeds . . . . .	21	34
Insurance cancellations . . . . .	16,794	25,108
Insurance convictions . . . . .	407	382
Improper equipment, miscellaneous . . . . .	147	1,685
Improper equipment, lights . . . . .	1,365	1,793
Improper equipment, brakes . . . . .	682	219
Deaths (fatal accidents) . . . . .	710	765
Other offences . . . . .	230	160
Totals . . . . .	40,814	53,133

Hearings . . . . .	6,929	6,751
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## Court recommendations adopted:—

Liquor . . . . .	0	0
Reckless and endangering . . . . .	52	58
Going away after accidents . . . . .	3	17
Without authority . . . . .	0	1
Totals . . . . .	55	76

Persons whose licenses were suspended or revoked and who had to pass examinations in order to have them returned .	3,680	4,077
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## ANALYSIS OF COURT ABSTRACTS RECEIVED

	1928	1929
Number of courts forwarding abstracts . . . . .	95	95
Total abstracts received . . . . .	53,345	57,025
Number of abstracts recording convictions . . . . .	42,052	46,448

*Offences*

(Analysis of guilty cases, not including appeals)

Overspeeding . . . . .	11,375	14,940
Reckless . . . . .	57	43
Operating under influence of liquor . . . . .	4,232	4,527
Using auto without authority . . . . .	843	1,046
Endangering lives . . . . .	2,531	2,781
Not stopping after causing injury . . . . .	774	797
Without license . . . . .	4,018	3,852
Without registration certificate . . . . .	1,490	1,302
Unregistered vehicle . . . . .	479	370
Improper display or no register number . . . . .	391	268
Refusing to stop on signal . . . . .	433	503
Unlighted lamps . . . . .	1,495	1,649
No signal . . . . .	75	34
Dazzling lights . . . . .	—	1
Operating within 8 feet of street car . . . . .	287	244
Violation of Metropolitan Park Rules . . . . .	239	1,393
Operating after suspension or revocation of license . . . . .	586	534
Larceny . . . . .	244	191
Manslaughter . . . . .	—	1
Miscellaneous . . . . .	2,314	3,100
Lenses not approved . . . . .	128	68
No reflector . . . . .	1	2
Racing . . . . .	19	6
Operating after revocation of registration certificate . . . . .	11	25
No rear light . . . . .	313	372
Not displaying lights . . . . .	181	156
Violation spot-light law . . . . .	1	2
Improper lights . . . . .	260	559
Brakes not as required by law . . . . .	259	435
Violation of Insurance Law . . . . .	479	449
Not slowing down approaching pedestrian . . . . .	211	36
Not slowing down at intersecting way . . . . .	6,507	5,472
Violation law of road . . . . .	1,640	1,159
Perjury . . . . .	—	—
Making false statements on license application, falsely impersonating or conspiring to obtain a license . . . . .	128	90
Loaning license to another . . . . .	21	5
Allowing intoxicated person to operate . . . . .	3	13
No windshield cleaner . . . . .	—	1
Attempted larceny . . . . .	27	22
Totals . . . . .	42,052	46,448

## USED CAR SECTION

(Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under the incorrect engine and makers' numbers where to find the correct numbers on the cars.

The work of this section is summarized in the following tables: —

Dealers

	1928	1929
Total number of first class dealers reporting . . . . .	1,338	1,304
Total number of second and third class dealers reporting . . . . .	458	450
Total number making reports to this office . . . . .	1,796	1,754

Reports

Approximate number of individual reports received daily . . . . .	300	450
Approximate number of dealers' reports received daily . . . . .	1,000	1,500

Motor Vehicles Stolen

Number stolen in Boston . . . . .	4,202	4,112
Number stolen in Massachusetts (including Boston) . . . . .	7,662	7,850
Number of stolen cars reported from various sources throughout the country, including Massachusetts . . . . .	17,907	21,194
Number recovered through information furnished by this office . . . . .	302	345

Engine and Serial Numbers

Engine numbers assigned to cars . . . . .	77	65
Certificates issued authorizing the replacement of engine numbers . . . . .	1,402	1,474
Certificates issued authorizing the replacement of serial numbers . . . . .	2,610	2,223
Certificates issued authorizing the replacement of both engine and serial numbers . . . . .	89	75
Total number of authorization certificates issued . . . . .	4,101	3,772

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the Department attended meetings of the Eastern Conference of Motor Vehicle Administrators in January at Hartford, Connecticut; in April at New York City; and in September at Toronto, Canada. It has now been decided to hold but two regular meetings of the Conference in each year instead of four meetings.

ANALYSIS OF RECEIPTS

The fees received for the year 1929, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

Certificates of registration:			
Passenger cars (including taxicabs) . . . . .	903,648	\$2,857,187	25
Commercial cars . . . . .	113,268	1,198,678	75
Busses . . . . .	1,988	69,912	50
Trailers . . . . .	556	24,309	75
Motor cycles . . . . .	6,168	8,768	50
Manufacturers or dealers (including repairers) . . . . .	3,094	9,283	00
Manufacturers or dealers, additional cars (including repairers) . . . . .	19,546	58,430	50
Licenses to operate:			
Original licenses . . . . .	127,432 at \$2 00	—	254,864 00
Renewal licenses . . . . .	816,906 at \$2 00	—	1,633,812 00
Examinations . . . . .	137,307 at \$2 00	\$274,614	
Re-examinations . . . . .	46,770 at \$1 00	46,770	
Total examinations . . . . .	184,077		321,384 00



Copies of certificates and licenses furnished . . . . .	47,242 at \$1 00	\$47,242 00
Duplicate number plates furnished . . . . .	10,060 at \$1 00	10,060 00
Lens approval applications . . . . .	11 at \$50 00	550 00
Miscellaneous receipts, auto lists, process fees, etc. . . . .		4,372 47
		<hr/>
Total amount of fees . . . . .		\$6,498,854 72
Motor vehicle fees rebated (deducted) . . . . .		89,994 38
		<hr/>
Net fees . . . . .		\$6,408,860 34
Court fines received by the Treasurer and Receiver-General . . . . .		708,864 40
		<hr/>
Total receipts credited Highway Fund account, 1929 . . . . .		\$7,117,724 74

## EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1929 was \$1,-342,815.09, which was 20.9 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,774,909.65 available for legislative appropriation for highway work.

## ANALYSIS OF EXPENDITURES FOR 1929

## Personal services:

Regular payroll . . . . .	\$787,070 15	
Overtime . . . . .	21,488 21	
		<hr/>
		\$808,558 36

## Supplies:

Books, maps, etc. . . . .	\$447 07	
Typewriter supplies . . . . .	3,631 15	
Adding machine repairs and supplies . . . . .	49 39	
Other supplies . . . . .	2,761 90	
Stationery . . . . .	23,710 88	
Typewriter repairs . . . . .	106 15	
Other repairs . . . . .	691 21	
		<hr/>
		31,397 75

## Equipment:

Accounting and sorting machines . . . . .	\$1,490 95	
Adding machines . . . . .	415 76	
Miscellaneous equipment . . . . .	833 71	
Other machines . . . . .	1,311 38	
Typewriter machines . . . . .	4,607 32	
		<hr/>
		8,659 12

## Furniture:

Chairs . . . . .	\$383 47	
Desks . . . . .	1,020 18	
Files . . . . .	3,360 15	
Miscellaneous . . . . .	804 15	
		<hr/>
		5,567 95

## Travel:

Employees . . . . .	\$35,299 00	
Automobiles (owned by employees) . . . . .	117,205 70	
Automobiles (owned by state) . . . . .	869 78	
Other travelling expenses . . . . .	3,755 45	
		<hr/>
		157,129 93

## Other services and expenses:

Expressage . . . . .	\$2,040 85	
Postage . . . . .	60,671 02	
Printing . . . . .	9,624 34	
Other reports . . . . .	1,969 40	
Lithographing . . . . .	3,279 34	
Telephone . . . . .	5,993 40	

Premium on bonds of employees . . . . .	\$372 62	
Rent . . . . .	24,000 00	
Water and ice . . . . .	1,372 85	
Cleaning and janitor services . . . . .	1,260 00	
Towels . . . . .	856 70	
Soap . . . . .	58 84	
	<hr/>	\$111,499 36
Special services (labor) . . . . .	\$308 80	
	<hr/>	308 80
Other expenses as listed below:		
Sundries . . . . .	\$295 87	
Number plates . . . . .	166,435 56	
Auto lists . . . . .	2,500 00	
News clipping expenses . . . . .	355 00	
Uniforms for inspectors . . . . .	8,123 84	
Aviation expenses . . . . .	4,442 51	
Printing . . . . .	115 55	
Headlight expenses . . . . .	817 00	
Temporary branch during rush . . . . .	357 48	
	<hr/>	183,442 81
	<i>Branch Office Expenses</i>	
Equipment:		
Lettering and signs . . . . .	\$249 90	
Office equipment . . . . .	1,540 86	
Erection of counter . . . . .	2,544 73	
	<hr/>	4,335 49
Travel:		
Travelling expenses . . . . .	\$91 04	
Express service to bank . . . . .	360 00	
	<hr/>	451 04
Other services and expenses:		
Cleaning and janitor services . . . . .	\$2,439 25	
Expressage . . . . .	2,330 56	
Fuel . . . . .	341 20	
Lighting . . . . .	1,091 37	
Miscellaneous . . . . .	473 87	
Rent . . . . .	16,216 72	
Telephone . . . . .	5,418 37	
Towels . . . . .	278 35	
Water and ice . . . . .	350 12	
Special services (labor) . . . . .	908 32	
	<hr/>	29,848 13
	<i>Publicity for Safety Work</i>	
Engraved cups for prizes . . . . .	\$32 00	
Labels . . . . .	179 89	
Personal services . . . . .	114 25	
Postage . . . . .	802 12	
Posters . . . . .	299 36	
Sundries . . . . .	160 58	
Travel . . . . .	28 15	
	<hr/>	1,616 35
		<hr/>
		\$1,342,815 09
Personal services . . . . .		\$808,558 36
Expenses . . . . .		532,640 38
Publicity for safety work . . . . .		1,616 35
		<hr/>
Total expenses . . . . .		\$1,342,815 09



**RELATING TO WATERWAYS AND PUBLIC LANDS—BOSTON HARBOR.****THE COMMONWEALTH FLATS AT SOUTH BOSTON***Commonwealth Pier No. 5*

In addition to the usual work of repairs and maintenance during the year the offices and rooms for a part of the engineering force of the Department have been completed and are now in use, and a room on the west side of the second floor has been built and equipped for a restaurant.

Work under contract of Oct. 23, 1928, with the George W. Nicoll Company, Inc., for building engineering offices, was completed Feb. 21, 1929, at a contract cost of \$68,163.58. By this contract offices and rooms were provided for the use of a part of the engineering force of the Department, two offices and a baggage room for the steamship companies, and bridges on the second floor of the pier were rebuilt to connect the west shed with the passenger shed.

The room used as a restaurant on the second floor mezzanine on the east side of the pier was found quite inadequate to serve the increased number of employees of the Department now transferred to the Pier. To provide better accommodation a contract was made with Carl S. Helrich on Apr. 23, 1929, for building a room for a restaurant on the west side of the second floor. This work included the construction of the room for the restaurant and a kitchen with light, heat and cooking facilities, the renovation of the room formerly used as a restaurant, the removal of the kitchen equipment and the preparation of the space for offices for use by the Registry of Motor Vehicles. On Nov. 15, 1929, this work was completed at a contract cost of \$13,577.41. The restaurant is now being operated by the Waldorf System, Inc.

Under contract of Jan. 25, 1929, a motor generator set for use in connection with a new room for blue printing was furnished and installed at a cost of \$1,-832.10. This work was completed Mar. 13, 1929.

As the service pipe supplying water to the Pier was not large enough to meet the increased needs a contract was made on Mar. 5, 1929, with M. DeSisto Company for furnishing and laying about 192 linear feet of 6-inch cast-iron pipe from the water main in Northern Avenue to the service pipe on the pier. This work was completed Apr. 13, 1929, at a contract cost of \$2,596.40. The necessary connection with the water main in Northern Avenue was made by the city of Boston.

Additional heating equipment and sprinklers in the passenger quarters and locker rooms were provided under contract of Apr. 2, 1929, with Pierce and Cox at a contract cost of \$1,878. The work was completed May 7, 1929.

Certain necessary cleaning and painting of offices and corridors was completed June 22, 1929, under a contract of Apr. 16, 1929, with Thomas J. Walsh, at a contract cost of \$5,500.

Under a contract of May 7, 1929, with Maurice M. Devine broken lights of glass were replaced on the outer sides and end of the pier shed. This work was completed June 11, 1929, at a contract cost of \$1,044.20, for a part of which the Commonwealth was reimbursed by the steamship companies.

A contract was made on Oct. 22, 1929, with Maurice M. Devine for building eight movable wooden bridges, over the railroad tracks in the track pits, for connecting the east and west sheds with the center shed. This work is now in progress.

Work has not yet begun under contract of Nov. 27, 1929, with William H. Ellis and Son Company, for making repairs to the timber platforms at the pier.

On Nov. 27, 1929, a contract was made with Reynolds Bros., Inc., for furnishing and laying a two-inch wearing surface of bitulithic pavement on portions of the present floor of the pier. The larger part of the work to be done is the repaving of a portion of the driveway on the second floor of the west shed. No work has been done under this contract.

Provision is made for setting additional valves and indicator posts on the existing fresh water and fire service mains of the pier, by contract made Nov. 27, with M. DeSisto Company for the lump sum of \$1,050, but no work has as yet been done.

Miscellaneous work has been carried on during the year, including repairs to

iron ladders, timber platforms, fender logs, vacuum pumps, roofs, Kinnear and Ogden doors, to the heating system and to the masonry work of the boilers at the heating plant.

#### *Ramp and D Street*

On Nov. 27, 1929, a contract was made with A. DeStefano and Sons, Inc., for relaying the present granite blocks on a concrete base, resetting the curbing and relaying the brick sidewalks over the solid filled portion of the ramp connecting the Viaduct with D Street, and over that portion of D Street between the ramp and Northern Avenue. Work under this contract has not yet begun.

#### *Development of Land South of Summer Street*

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc.. Since July, this Company has used also sections J and K of Storehouse No. 2 on D Street. Section H of this warehouse was leased on May 7, 1929, to the Economy Grocery Stores Corporation for a term of five years from June 1, 1929. The remaining sections continue to be used by the Department.

On Feb. 19, 1929, a contract was made with Hill and Delaney to make repairs to portions of the wooden platforms on the easterly side of Storehouse No. 1 on E Street, and on the westerly side of Storehouse No. 2 on D Street. This work was completed Mar. 20, 1929, at a contract cost of \$3,826.61.

On Sept. 3, 1929, a contract was made with the George W. Nicoll Company, Inc., for the removal and construction of about 60 linear feet of platform on the D Street side, and the reconstruction of about 140 linear feet of platform on the track side of Section H, and repairs to other platforms and floors of Sections J and K of the Storehouse on D Street. This work was completed Nov. 26, 1929, at a contract cost of \$2,488.89.

A contract with Maurice M. Devine was made on Nov. 27, 1929, for placing a cement plaster surfacing one-half inch thick on the tile wall of sections H, J, and K of Storehouse No. 2 on D Street. Work has not yet begun under this contract.

Other miscellaneous repairs have been made this year to both Storehouses. The work has consisted chiefly of waterproofing parts of the roof, removing certain partitions, and making repairs to the fire sprinkler system.

#### *Industrial Tracks of the Commonwealth*

The repaving by the City of Boston of C Street on a concrete base from Summer Street to East First Street and the paving of D Street 50 feet wide with granite blocks on a concrete base from Claflin Street to East First Street, made certain changes in the tracks necessary. The railroad track crossing C Street and the tracks in Cypher Street at the intersection of C Street, were taken up and replaced by 100-pound rails at the grade established for the repaving of C Street. The rails in the Cypher Street tracks at the intersection with D Street were also removed and replaced by 141-pound girder rail, at the grade established by the paving of D Street.

General maintenance work upon the industrial tracks has been carried on during the year, chiefly in the replacing of old ties by new creosoted ties.

#### *Land on Northern Avenue*

On May 7, 1929, a parcel of land on the easterly corner of the intersection of the private way in extension of B Street with Northern Avenue was leased to the City Lease and Building Corporation at a rental of \$8,700 a year, for a term of twenty years, with an option of renewal for a further period of twenty years at a rental of five per cent of the fair value of said land as of April, 1949. The area leased contains 58,179 square feet. This lease was later assigned to the Massachusetts Chain Store Terminals, Inc.

#### THE COMMONWEALTH FLATS AT EAST BOSTON

##### *Aircraft Landing Field*

The lease to the War Department under date of June 30, 1922, was renewed to June 30, 1930, in accordance with the terms of a supplementary agreement



made Dec. 27, 1926, extending the renewal option to June 30, 1937, by yearly renewals.

The area containing approximately 1,479,000 square feet, adjacent to and easterly of the landing field, remains under lease of June 16, 1924, to the U. S. Navy Department. This lease gives to the Lessor the option of extending the period of occupancy by annual renewals to June 30, 1932.

The City of Boston under the lease of Aug. 10, 1928, authorized by chapter 64 of the Resolves of that year, continues to occupy an area of approximately 5,717,000 square feet for use as an Airport.

By chapter 24 of the Resolves of 1929, the Department was authorized to move and relocate two hangars and other buildings of the Massachusetts National Guard, at the Airport. On Sept. 4, 1929, a contract for this work was made with John Cavanagh and Sons Building Moving Company. The work was completed Nov. 20, 1929, at a contract cost of \$18,411.44. On Nov. 26, 1929, a contract was made with Hill and Delaney for miscellaneous work, consisting largely of reconstruction of rooms, and of making the necessary plumbing, sewer and heating connections necessitated by the moving of the buildings. This work is now in progress.

#### *Dredging and Filling at East Boston*

No contract for dredging and filling has been in force at East Boston since the completion on Dec. 24, 1923, of that with the Atlantic, Gulf and Pacific Company. Between that date and Nov. 30, 1929, approximately 1,700,000 cubic yards of material dredged from various locations in the harbor by dredging companies employed chiefly upon private work have been deposited in the receiving basin. During the year ending Nov. 30, 1929, about 140,000 cubic yards were deposited upon the flats northerly of Governor's Island.

The Commonwealth has reclaimed at East Boston about 150 acres of land.

#### *Commonwealth Pier No. 1, East Boston*

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for their steamers not in service.

No major repairs to the pier have been needed this year.

#### AREAS IN TIDE WATER CEDED TO THE FEDERAL GOVERNMENT

By two deeds of August 20, 1929, the Department conveyed to the Superintendent of Lighthouses two tracts of tide water land of the Commonwealth in Weymouth Fore River to be used for the erection and maintenance of lights as aids to navigation. One of these areas is located at Harrys Rock Light No. 2 in the town of Hull, and one at Fore River Channel Light No. 4 in the town of Weymouth.

#### HARBOR LINES

New harbor lines have been established during the year on the northerly side of Mystic River in Everett and across Fort Point Channel in Boston.

Chapter 228 of the Acts of 1929 fixes a new harbor line in Mystic River to coincide with the present U.S. pierhead and bulkhead line and to extend easterly from a point near Malden Bridge to the westerly side of the mouth of Island End River. This chapter abolishes the harbor lines established in this part of the river in 1856.

Chapter 278 of the Acts of 1929 fixes a new harbor line across Fort Point Channel just below Dorchester Avenue Bridge, and abolishes all previous harbor lines in the channel above the new line and in South Bay.

#### SAVIN HILL BAY AND DORCHESTER BAY

By chapter 317 of the Acts of 1929, the Department of Public Works was authorized and directed to do certain dredging in Savin Hill Bay and Dorchester Bay.

On July 16, 1929, a contract was made with the Trimount Dredging Company to redredge the Commercial Point Channel 100 feet wide and approximately 2,400 feet long to a depth of 12 feet at mean low water; to dredge a channel from the Dorchester Yacht Club to the Commercial Point channel 50

feet wide and approximately 800 feet long to a depth of 6 feet at mean low water, and to dredge approximately 1,000,000 square feet of flats in Savin Hill Bay to a depth of 3 feet at mean low water.

The contract prices for this dredging are: for dredging channels and disposing of the dredged material on the shore, 40 cents per cubic yard measured *in situ*; for dredging flats and disposing of the dredged material on the shore, 49 cents per cubic yard measured *in situ*; for removing and disposing of boulders, \$18 per cubic yard. This dredging is now in progress.

From the appropriation of \$147,500 made by the Legislature the amount of \$28,125 is to be paid from the Port of Boston receipts, the remainder is to be considered a part of the cost of the Old Colony Boulevard and is to be divided, so that \$59,687.50 is paid from the Highway Fund and an equal amount assessed upon the cities and towns of the Metropolitan District.

#### TOWN RIVER, QUINCY

Hearing was held Jan. 30, 1929, on the petition of the Mayor of Quincy for dredging in Town River from a point nearly opposite property of the Baker Yacht Basin, Inc., to the northerly property line of the Quincy Lumber Company.

On Sept 17, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of not less than 8 feet at mean low water, a channel 60 feet wide on the bottom and approximately 5,000 feet long. The contract prices are: for dredging the channel and disposing of the dredged material, 49 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Toward the cost of this work a contribution of \$14,750 has been made by the city of Quincy. This dredging is now in progress.

Amount expended during the year, \$15,777.74. Total expenditure to Dec. 1, 1929, \$15,777.74.

#### WOLLASTON CHANNEL, QUINCY

Hearing was held Jan. 30, 1929, upon the petition of Edward G. Morris for dredging the channel to the Wollaston and Squantum Yacht Clubs.

On May 28, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of not less than 6 feet at mean low water a basin, approximately 100 feet wide and 500 feet long, and a connecting channel approximately 1,800 feet long and 70 feet wide, in the vicinity of the Wollaston and Squantum Yacht Clubs at Wollaston Beach, Quincy. The contract prices for this work were: for dredging channel and basin and disposing of the dredged material, 55 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging was completed June 25, 1929, at a contract cost of \$16,564.35. Toward this cost the Wollaston and Squantum Yacht Clubs contributed \$150 and the city of Quincy, \$4,000.

Amount expended during the year, \$16,600. Total expenditure to Dec. 1, 1929, \$16,600.

### RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$100,000 was made during 1929, with the following condition:

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$40,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river



banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allen's Harbor, Harwich; Annisquam River, Gloucester; Bass River, Dennis and Yarmouth; Connecticut River, Holyoke; Connecticut River, West Springfield; Duxbury Harbor, Duxbury; Falmouth Inner Harbor, West Falmouth Harbor, Wild Harbor, Waquoit Bay, Falmouth; Gloucester Inner Harbor, Green Harbor, Marshfield; Herring River, Harwich; Manchester Harbor; Nobscusset Harbor, Dennis; Plymouth Harbor, Plymouth; Quisset Harbor, Falmouth; Scituate Harbor, Scituate; Skaket Channel, Brewster; Vineyard Haven Harbor.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allen's Harbor, Harwich; Connecticut River, Holyoke; Connecticut River, West Springfield; Duxbury Harbor, Duxbury; Falmouth Inner Harbor, West Falmouth Harbor, Wild Harbor, Waquoit Bay, Falmouth; Gloucester Inner Harbor; Green Harbor, Marshfield; Herring River, Harwich; Nobscusset Harbor, Dennis; Plymouth Harbor, Plymouth; Quisset Harbor, Falmouth; Skaket Channel, Brewster; Vineyard Haven Harbor.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of the work done during the year 1929, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows.

#### ALLEN'S HARBOR, HARWICH

During the year the erosion of the shore easterly of the east jetty at Allen's Harbor became so serious that protective measures were imperative. Under letter contracts with the Owen W. Duffy Company the timber fence was repaired, extended 100 feet farther to the east and reenforced by riprap along the front. The work was completed Sept. 17, 1929, at a contract cost of \$2,338.90. Toward the cost of this work a contribution of \$600 was made by the town of Harwich.

Amount expended during the year, \$3,272.39. Total expenditure to Dec. 1, 1929, \$26,465.72.

#### ANNISQUAM RIVER, GLOUCESTER

Hearing was held Jan. 30, 1929, upon the petition of the Gloucester Maritime Association, and others, for redredging Annisquam River to a depth of 8 feet at mean low water.

A survey of the river showed a prevailing depth of about 5 feet at mean low water. On June 11, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge the existing channel to a depth of 8 feet at mean low water from deep water north of Wolf Hill to a point just south of Blynman Bridge, a distance of approximately 8,650 feet. The contract prices for this dredging were: for dredging and disposing of the dredged material at sea, 51 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Work under this contract was completed Sept. 24, 1929, at a contract cost of \$26,035.88. Toward the cost of this dredging a contribution of \$7,000 was made by the city of Gloucester.

Amount expended during the year, \$29,016.99. Total expenditure to Dec. 1, 1929, \$170,975.20.

#### BASS RIVER, DENNIS AND YARMOUTH

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Dennis and Yarmouth for dredging in Bass River and for repairing the jetties at the entrance.

On Nov. 19, 1929, a contract was made with the Bay State Dredging and Con-

tracting Company, for the construction of an extension to the easterly jetty at the entrance to Bass River, at a contract price of \$6.15 per ton of 2,000 pounds for furnishing and placing all stone riprap and chips in the jetty. This extension is to be about 600 feet long, of heavy stone riprap with a core of small stone chips. Work has not yet begun under this contract. No contract has been made for the dredging requested.

Amount expended during the year, \$1,570.53. Total expenditure to Dec. 1, 1929, \$116,961.23.

#### BRANT ROCK, MARSHFIELD

The work done in 1927 and 1928 in placing concrete footing under a portion of the sea wall at Brant Rock was continued under letter contract of Apr. 23, 1929, with Frank H. Barry for placing 125 feet of such footing. The work was completed June 12, 1929, at a contract cost of \$971.37.

Amount expended during the year, \$1,153.97.

#### CONNECTICUT RIVER

*Hadley and Northampton.*—A survey has been made this year of the section of the Connecticut River, about 12,000 feet long, extending from the Northampton-Hadley highway bridge to Sheppard's Island in Hadley and Northampton. Serious erosion has taken place during the past thirty years in this section, particularly at a point just north of the bend in the river above Sheppard's Island. A part of the purpose of the survey was to secure information from which a model could be made by the Massachusetts Institute of Technology and experiments carried on to determine the most feasible method of checking this erosion. The Institute will assume the entire cost of the model and the experiments and will make the results available for the use of the Department.

Amount expended for survey work during the year, \$465.48.

*Northfield.*—The attention of the Department was called in the spring to the erosion on the westerly bank of Connecticut River north of the Mt. Hermon Bridge, progressing at a rate that threatened to damage the westerly abutment of the highway bridge.

A contract was made on May 21, 1929, with the Kelleher Corporation to furnish and place about 1,000 tons of stone riprap on the west bank of Connecticut River, north of this bridge, at a contract price of \$2.40 for each ton of riprap furnished in place. This work of protecting with stone riprap about 400 linear feet of the west bank of the river, was completed July 21, 1929, at a contract cost of \$2,888.82.

Amount expended during the year, \$2,934.81. Total expenditure to Dec. 1, 1929, \$9,028.90.

#### COTUIT HARBOR, BARNSTABLE

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Barnstable for dredging the entrance to Cotuit Harbor in Barnstable.

On July 30, 1929, a contract was made with William E. Burke to redredge a length of about 1,600 feet of the entrance channel to a depth of 7 feet at mean low water with a bottom width of 100 feet, and to remove a shoal. The contract prices for the work are: for dredging and disposing of the dredged material at sea, 65 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$15 per cubic yard. The work was completed Nov. 27, 1929, at a contract cost of \$10,340.85. Toward the cost of the dredging a contribution of \$5,000 was made by the town of Barnstable.

Amount expended during the year, \$10,993. Total expenditure to Dec. 1, 1929, \$81,303.99.

#### COTUIT SHORE PROTECTION, BARNSTABLE

The timber bulkhead built by the Commonwealth for the protection of a part of the shore at Cotuit was destroyed by severe storms during the year. In August a complaint was received that sections of the structure were floating in tide water and were likely to become a menace to navigation. A letter contract was made with Louis A. Byrne for the removal of the damaged portion of the bulkhead for the lump sum of \$289. This work was completed Oct. 20, 1929.

Amount expended during the year, \$245.65.



## FALMOUTH SHORE PROTECTION

An inspection in the early spring found the riprap placed last year in front of the sea wall at Falmouth Heights, partially dislodged and scattered upon the beach. A letter contract was made with George W. Starbuck to replace this stone for the lump sum of \$254. This work was completed Apr. 10, 1929.

Amount expended during the year, \$254. Total expenditure to Dec. 1, 1929, \$57,963.13.

## GUN ROCK — GREEN HILL SEA WALL, HULL

In October a request was received from residents in the vicinity for repairs to the sea wall built by the Commonwealth between Gun Rock and Green Hill. An examination of the structure showed the main sea wall in good condition, but the spur jetties in front seriously damaged and the beach eroded to a considerable extent.

A contract was made on Nov. 19, 1929, with Bradford Weston for the construction of three concrete spur jetties in front of this sea wall at a contract price of \$15 for each cubic yard of concrete in place in the completed work, including all excavation, backfilling and incidental work. No work has begun under this contract.

No expenditure during the year. Total expenditure to Dec. 1, 1929, \$37,906.21.

## HOOSIC RIVER

*Adams, Cheshire, Clarksburg, North Adams and Williamstown*

In accordance with the provisions of chapter 28 of the Resolves of 1928, the Department made a special report to the Legislature, House No. 111 of 1929, relative to protecting the cities and towns in the Hoosic and Connecticut Valleys from flood damage. By chapter 36 of the Resolves of 1929 the Department was directed to make a further survey and study of this matter.

During the year a survey has been made of a large part of the south branch of the Hoosic River through the town of Adams and an examination made of this river in other towns of the Valley. A special report has been prepared for presentation to the Legislature of 1930, as required by the Resolve.

*North Adams*

At the beginning of the year work was in progress under contract of Oct. 16, 1928, with Warner Bros. and Goodwin, Inc., for excavation and the removal of debris to remedy conditions left by the flood in Hoosic River, North Adams. In the spring the work was extended to provide for additional excavation in the river just below a thickly settled part of the city. The whole work, under the provisions of chapter 310 of the Acts of 1928, was completed May 18, 1929, at a contract cost of \$17,213.36.

Amount expended during the year, \$10,868.40. Total expenditure to Dec. 1, 1929, \$21,271.67.

## LEWIS BAY, BARNSTABLE AND YARMOUTH

The work of dredging a channel under contract of Oct. 23, 1928, with the Bay State Dredging and Contracting Company, was completed Jan. 8, 1929, at a contract cost of \$34,364.72. From the 9-foot contour in the outer bay to the town wharf a channel 9 feet deep at mean low water has been dredged to widths varying from 75 feet to 100 feet on the bottom, with increased width at the turns. Toward the cost of this work a contribution of \$1,500 was made by the town of Yarmouth and of \$17,309.29 by the town of Barnstable.

Amount expended during the year, \$23,874.51. Total expenditure to Dec. 1, 1929, \$66,631.28.

## MANCHESTER HARBOR, MANCHESTER

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Manchester for the removal of Bow Bell Ledge, so called, in the entrance channel to Manchester Harbor. The dredging of a channel around this ledge in 1928 showed that the larger portion of the area is actually composed of boulders lying close together.

On Mar. 26, 1929, a contract was made with the Bay State Dredging and Con-

tracting Company for dredging three areas in Manchester Harbor, the area designated as "Bow Bell" in the entrance channel, to a depth of 8 feet at mean low water, and the other areas to a depth of 6 feet at mean low water. The contract prices were as follows: for dredging area known as Bow Bell Ledge and disposing of the dredged material, \$1.10 per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard; for dredging areas outside Bow Bell Ledge and disposing of dredged material, 49 cents per cubic yard, scow measurement. This dredging was completed June 4, 1929, at a contract cost of \$11,797.91. Toward the cost of the work a contribution of \$6,500 was made by the town of Manchester.

Under this contract the larger part of the area known as Bow Bell Ledge was removed. The survey made after the completion of the work showed above the 8-foot contour about 2,377 cubic yards of remaining material which cannot be removed without the use of explosives.

Amount expended during the year, \$13,298.52. Total expenditure to Dec. 1, 1929, \$163,776.57.

#### NEW BEDFORD HARBOR, NEW BEDFORD AND FAIRHAVEN

Harbor lines in New Bedford Harbor have been established by various acts of the Legislature beginning at a comparatively early date. Some difficulty has been found in determining the exact location of some of these lines, and confusion has resulted from the failure of the State lines at many points to coincide with the lines established by the U. S. War Department in this harbor. The matter was discussed at a hearing held by the U. S. Engineers at New Bedford and a suggestion adopted to attempt to fix a common Federal and State line.

After a survey by the U. S. War Department a Federal harbor line was established coinciding in part with certain of the State lines. The Department then recommended to the Legislature the adoption of the U. S. lines by the Commonwealth. Chapter 80 of the Acts of 1929 establishes the lines of the War Department as the State harbor lines. This action has resolved the difficulties of conflicting lines in this harbor.

#### NEW BEDFORD STATE PIER

The larger portion of this pier has been since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

During the year minor repairs have been made to the pier including jacking up the floor of a portion of the timber shed and the placing of new foundations underneath, repairs to the concrete chocks and the repainting of a large part of the outside of the pier.

Two transportation companies have occupied space this year in the Immigration Shed, the only building on the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$2,821.93.

Income during the year, \$8,272.75. Total expenditure for operation and maintenance to Dec. 1, 1929, \$50,714.09.

#### NOBSCUSSET HARBOR, DENNIS

Hearing was held Jan. 30, 1929, on the petition of the Selectmen for an additional barrier to prevent the movement of sand into the harbor.

A letter contract was made on June 18, 1929, with George W. Starbuck to build about 150 linear feet of timber fence and to place stone riprap around the outer end of the structure. This work was completed July 27, 1929, at a con-



tract cost of \$1,353.38. Toward this cost a contribution of \$750 was made by the town of Dennis.

Amount expended during the year, \$1,606.38. Total expenditure to Dec. 1, 1929, \$41,385.22.

#### OAK BLUFFS SHORE PROTECTION

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen for protective work along the shore at the Highlands.

Examination of the locality showed that considerable erosion was taking place along this shore for a distance of about one-half mile and was undermining the highway to some extent.

A contract was made on July 2, 1929, with C. W. Blakeslee and Sons, Inc., for the construction of about 2,150 linear feet of creosoted timber bulkhead and 43 creosoted timber spur jetties, each 25 feet long, upon this shore. The contract prices for this work were: for furnishing all materials and constructing the main creosoted timber bulkhead, \$16 for each linear foot of completed bulkhead in place; for furnishing all materials and constructing the creosoted timber spur jetties, \$8 for each linear foot of completed spur jetty in place; for furnishing and placing all filling, \$2.70 for each cubic yard measured in place. This work was completed Oct. 28, 1929, at a contract cost of \$48,174.90. Toward the cost of the structure a contribution of \$25,000 was made by the town of Oak Bluffs.

After this work was completed a letter contract was made with Antonio White to place 820 cubic yards of additional filling back of the bulkhead for the lump sum of \$1,106. This work is now in progress.

Amount expended during the year, \$42,423.55. Total expenditure to Dec. 1, 1929, \$132,745.53.

#### COMMONWEALTH PROPERTY AT PLYMOUTH

The unexpended balance of the appropriation made in 1928 for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924, was used for the work necessary during the year.

A portion of the timber deck of the State Pier was replaced under an agreement of June 3, 1929, with George W. Starbuck, by which labor and equipment were furnished by the contractor, and material by the Commonwealth. The work was completed July 5, 1929, at a contract cost of \$929.48 for labor and equipment.

This year one caretaker has been employed permanently for the necessary work at the grounds and additional help has been secured as required.

Amount expended during the year, \$5,027.41. Total expenditure to Dec. 1, 1929, \$31,077.85.

#### PROVINCETOWN SHORE PROTECTION

Late in 1928 the attention of the Department was called to the serious erosion of the upland at Provincetown easterly of the end of the riprap placed along the State highway in 1924, 1926 and 1927. An examination showed the erosion proceeding for a considerable distance along the shore upon property privately owned.

It was decided in December to build as an experiment a section of wire fence upon this beach in order to observe the effect of the structure upon the continuance of erosion. A letter contract was made with George W. Starbuck to build about 72 linear feet of wire fencing along the shore. This work was completed Jan. 4, 1929, at a contract cost of \$149.76. Toward this cost a contribution of \$75 was made by the owners of the upland back of the fence. Up to the end of the present fiscal year the fence has been effective in checking erosion.

Amount expended during the year, \$149.76. Total expenditure to Dec. 1, 1929, \$28,559.87.

#### PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23,

1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

#### SCITUATE HARBOR, SCITUATE

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen for dredging an anchorage basin and removing shoals from the entrance channel at Scituate Harbor.

On Apr. 9, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge an anchorage basin along the north side of the entrance channel to a depth of 6 feet at mean low water, to remove certain shoals in the entrance channel to a depth of 8 feet at mean low water, and to remove shoals from a channel leading to the Scituate Yacht Club. The contract prices were: for dredging and disposing of material at sea, 54.8 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The dredging was completed June 24, 1929, at a contract cost of \$38,995.60. Toward the cost of the work a contribution of \$20,000 was made by the town of Scituate. Under this contract the area of the anchorage basin in this harbor was increased about  $4\frac{1}{2}$  acres.

Amount expended during the year, \$40,362.67. Total expenditure to Dec. 1, 1929, \$165,648.78.

#### SCITUATE SEA WALLS

During the year minor repairs were found necessary to sea walls at North Scituate and to the breakwater at Lighthouse Point at the Sand Hills, on account of erosion from frost and from the action of the sea. Under a letter contract with Frank H. Barry for such repairs, the work was completed Nov. 27, 1929, at a contract cost of \$517.55.

Amount expended during the year, \$439.92.

#### SEAPUIT RIVER, BARNSTABLE

Work under contract of Sept. 4, 1928, with the Trimount Dredging Company was completed Jan. 7, 1929, at a contract cost of \$24,227.84. This dredging has provided a channel 40 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in the West Bay entrance channel to the 6-foot contour in Cotuit Harbor.

Amount expended during the year, \$9,304.87. Total expenditure to Dec. 1, 1929, \$25,088.55.

#### WAQUOIT BAY, FALMOUTH AND MASHPEE

Work under letter contract of Nov. 2, 1928, with John A. Davis for repairing the breakwater at the harbor entrance by placing concrete in bags at low places in the structure, was completed Dec. 7, 1928, at a contract cost of \$1,274.

Amount expended during the year, \$275.65. Total expenditure to Dec. 1, 1929, \$57,424.50.

#### WEST BAY, BARNSTABLE

Work under contract of Jan. 9, 1928, with the Wianno Dredge Company, Inc., was completed Aug. 17, 1929, at a contract cost of \$17,796.66.

Amount expended during the year, \$7,121.23. Total expenditure to Dec. 1, 1929, \$109,931.84.

#### WEST HARWICH SHORE PROTECTION

Work under letter contract of Nov. 20, 1928, with Louis A. Byrne for the construction of two sections of wire fence as an experiment in checking erosion along the shore was completed Dec. 8, 1928, at a contract cost of \$569.80.

Hearing was held Jan. 30, 1929, on the petition of Grace E. Phipps, and others, for protective work along the shore for a distance of about 3,000 feet where serious erosion has been proceeding for some years.

As the sections of wire fence built in 1928 appeared to be reducing the erosion, it was decided to extend this method of protection along the shore.

A contract was made on Oct. 29, 1929, with Edward E. Crowell and Isaiah Kelley to construct about 2,250 linear feet of wire fence extending along the beach at West Harwich with spur jetties 24 feet long and 54 feet apart extend-



ing at right angles to the fence, at the following contract prices: for furnishing materials and constructing the wire fence, including all excavation, back filling and the furnishing, placing and weighting of the seaweed and brush, and maintaining fence for one year, \$1.55 for each linear foot; for furnishing materials and constructing spur jetties, including all incidental work and maintenance for one year, \$1.55 for each linear foot. Work under this contract has not yet begun.

Amount expended during the year, \$1,009.30. Total expenditure to Dec. 1, 1929, \$13,493.41.

#### WINTHROP SHORE

*Point Shirley Sea Wall.*—For several years the sea wall at Point Shirley has shown gradual deterioration due to erosion by the sea, until at certain points the face of the wall was cut away to a depth of two feet.

On Apr. 2, 1929, a contract was made with the National Guniting Contracting Company to repair the face and top of the wall, with cement mortar placed by the guniting process. The contract prices for this work were: for all costs of transporting plant and men to the site of the work and back to the original starting point upon completion of the work, the lump sum of \$220; for furnishing all reinforcing steel, 13 cents for each square foot measured in place; for furnishing all cement, sand, water, power, equipment and all labor and materials required to perform the necessary chipping, cleaning and placing of the guniting, \$3.80 for each bag of cement used in the completed guniting work; for excavating a trench along the face of the wall, \$1 for each cubic yard measured in place. This work was completed Apr. 29, 1929, at a contract cost of \$1,925.82.

Amount expended during the year, \$2,046.22. Total expenditure to Dec. 1, 1929, \$97,343.71.

#### MISCELLANEOUS

##### GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Cedar Pond, Carver; Center Lake, Becket; Crystal Lake, Newton; Furnace Pond, Pembroke; Great Herring Pond, Plymouth; Gould Pond, Holland; Greenwater Pond, Becket; Hampton Ponds, Easthampton; Harts Pond, Chelmsford and Westford; Knop Pond, Groton; Lake Chaubunagungamaug, Webster; Lake Mascuppie or Tyngs Pond, Tyngsborough; Lake Quannapowitt, Wakefield; Lake Quinsigamond, Shrewsbury and Grafton; Lake Whalom, Lunenburg; Lake Winthrop, Holliston; Learned's Pond, Framingham; Little Alum Pond, Brimfield; Little Sandy Bottom Pond, Pembroke; Long Pond, Brewster and Harwich; Lovell's Pond, Barnstable; Maquan Pond, Hanson; Pontoosuc Lake, Pittsfield; Silver Lake, Pittsfield; Stockbridge Bowl, Stockbridge; Ward Pond, Ashburnham; Warner Lake, Greenfield; Wedge Pond, Winchester; Yokum Pond, Becket.

During the year, surveys of the following great ponds have been made:

##### *Gould Pond or Lost Lake, Brimfield-Holland*

Area at time of survey . . . . .	14.69 acres
Area of natural pond . . . . .	13.52 acres
Maximum depth . . . . .	11.8 feet

##### *Hart or Baptist Pond, Chelmsford and Westford*

Area at time of survey . . . . .	93.84 acres
Area of natural pond . . . . .	80.87 acres

The area of this pond is divided between the two towns as follows:

86.83 acres in Chelmsford  
7.01 acres in Westford  
Maximum depth 22.0 feet

*Wedge Pond, Winchester*

Area at time of survey . . . . . 24.38 acres  
Area of natural pond . . . . . 20.99 acres  
Maximum depth . . . . . 18.0 feet

*Winthrop Pond, Holliston*

Area of pond at high water line . . . . . 101.08 acres  
Area of natural pond . . . . . 91.30 acres  
Maximum depth . . . . . 20.5 feet

These areas are exclusive of the areas of three islands within this pond which are owned by the Commonwealth, the areas of which at high water line are as follows:

Rat Island . . . . . 0.56 acres  
Berry Island . . . . . 0.21 acres  
Grape Island . . . . . 0.45 acres

Amount expended during the year, \$1,728.57. Total expenditures, \$13,872.13.

ACCESS TO GREAT PONDS

During the year no petitions relative to public access to great ponds were filed in accordance with the provisions of chapter 453 of the Acts of 1923.

A special report under date of December 31, 1928, was made to the Legislature relative to acquiring a right of way for public access to Lake Chaubunagungamaug in the town of Webster. The report discusses three locations suggested for the public right of way to this pond and concludes:

“The Joint Board is of the opinion that any one of these three parcels of land above referred to would give the public adequate approach to the shores of this lake. While there are a number of amusement parks on the shores of this pond available for public use, the Board is of the opinion that at least one public right of way should be taken. Any one of the three locations referred to would give a satisfactory approach. The grade crossing at Union Point is a serious obstacle, but it is believed that during the summer months, when this location would be of use, arrangements should be made with the railroad to protect this crossing.

The Board believes that the approach should be acquired by purchase and not by lease, and recommends that the choice of the location be left to the local authorities subject to the approval of the Department.”

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods.. Five acres of sand dunes have been covered with brush and four acres of bayberry were transplanted to reinforce areas previously planted.



In addition 18,000 native pines on the sod have been transplanted and 180,000 seedlings of Scotch and Austrian pines planted.

During the year a section of State highway about  $1\frac{1}{4}$  miles long was built over a portion of these lands to connect with a town road at the westerly end of Provincetown. This highway makes an excellent bathing beach accessible for public use.

The sum of \$164.40 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands.

Under the provisions of chapter 77 of the Acts of 1864, certain upland and flats of the Province Lands were ceded to the Federal Government for the Long Point Military Reservation. In accordance with an Act of Congress approved June 7, 1926, about 525 acres of this property have been reconveyed to the Commonwealth. The portion returned to the State is an area known as Long Beach. The land consists of a sand ridge of varying width extending along the high water line, and of certain marsh lands north of the ridge. Under the provisions of section 2 of chapter 91 of the General Laws, the Department now exercises jurisdiction over this property.

Of the area originally granted the Federal Government has retained four parcels, one upon which the Wood End Light is located, one for the Coast Guard Station, and two for the range beacons used in testing U. S. Naval submarines. Over three of these parcels, however, the National Government provides that the Commonwealth shall have a right of way, not exceeding 100 feet in width, and the privilege of maintaining thereon a public highway, in a location subject to the approval of the Federal Government.

Amount expended during the year, \$5,000. Total expenditure to Dec. 1, 1929, \$126,072.28.

#### CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, resolves of 1917, cooperation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

During the year the United States Geological Survey established two new gauging stations, one on the Connecticut River south of the Boston and Maine Railroad Bridge in Montague, and one at Gibbs Crossing on the Ware River in Ware. One third of the cost of these stations was paid by the Federal Government and two-thirds by the Metropolitan District Water Supply Commission. The stations will, however, be operated jointly by the U. S. Geological Survey and by this Department.

#### RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation stations previously established in connection with the topographical survey of the Commonwealth and the town boundary survey, which have been lost or destroyed, and to obtain the geographical positions of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground, and geographical positions furnished to the Land Court; 26 stations in Chatham; 5 stations at Cotuit in the town of Barnstable; 9 stations in Nantucket.

Amount expended during the year, \$1,000.

#### TOWN BOUNDARY LINES

Under the provisions of chapter 96 of the Acts of 1881, the courses of the boundary lines between adjacent cities and towns bordering upon the sea were

defined by the Harbor and Land Commissioners to the exterior line of the Commonwealth. During the year requests have been received from several towns for the establishment of permanent ranges on the land to determine the direction of the boundary line in tide water from the shore to the exterior line of the Commonwealth.

The demand for this work appears to be due largely to changes in the laws governing fishing and to fishing regulations making necessary the accurate determination of town boundary lines in tide water. It seems likely that the need for the establishment of these ranges will increase in the future. Considerable work is, of course, involved in the fixing of these points. This year boundary lines in tide water have been determined in the towns of Chatham, Orleans, Eastham and Wellfleet.

Certain work has also been done in reproducing the locations of several town boundary monuments lost or destroyed, and in re-establishing by this means portions of town boundary lines in Eastham, Wellfleet, Milton, Grafton, Mendon, Shrewsbury and Quincy.

#### LICENSES AND PERMITS

During the year 105 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 104 permits for miscellaneous purposes. The Department also approved 111 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

#### DETAILS OF EXPENDITURES FOR WATERWAYS

FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1929, INCL.

Payments	To Nov. 30, 1928	1929	Total
Boston Harbor . . . . .	\$1,718,560 62 <sup>1</sup>		
Dredging and filling . . . . .		\$910 21	
Special appropriations . . . . .		11,792 60	\$1,731,263 43
Commonwealth Flats, East Boston	3,071,332 79 <sup>2</sup>		
Special appropriations . . . . .		16,182 32	3,087,515 11
Commonwealth Flats, So. Boston	4,872,087 79		
Streets, piers and railroads . . . . .		35 90	4,872,123 69
Castle Island . . . . .	735,155 95		
Dredging and filling . . . . .		1,390 50	
Castle Island sea wall repairs . . . . .		837 74	737,384 19
Commonwealth Pier No. 5, South Boston			
Construction . . . . .	4,014,790 45	—	4,014,790 45
Operation and supervision . . . . .	1,205,637 83	100,669 70	1,306,307 53
Commonwealth Pier No. 1, East Boston			
Construction . . . . .	1,199,703 23		1,199,703 23
Operation and Maintenance . . . . .	87,734 72	7,709 98	95,444 70
Commonwealth Pier No. 6 . . . . .	1,092,149 06	—	1,092,149 06
Dry Dock . . . . .	3,169,651 15 <sup>3</sup>	—	3,169,651 15
Hayward Creek . . . . .	385,959 61 <sup>4</sup>	—	385,959 61
Mystic River . . . . .	428,463 41 <sup>5</sup>	—	428,463 41
Malden River . . . . .	32,268 70 <sup>6</sup>	—	32,268 70
Chelsea Creek . . . . .	60,519 88	—	60,519 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth . . . . .	663,474 14		
Maintenance of property . . . . .		128,080 34	791,554 48
	<hr/>	<hr/>	<hr/>
	\$22,790,702 43	\$267,609 29	\$23,058,311 72

<sup>1</sup> Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.00.

<sup>2</sup> Appropriated by City of Boston, \$10,000.00.

<sup>3</sup> \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.

<sup>4</sup> Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.

<sup>5</sup> Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.00.

<sup>6</sup> Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.



EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1929, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging . . .	\$1,000 00	\$22,012 08
Dorchester, Easterly Shore, dredging and survey	1,000 00	128,948 71
Harbor View, dredging . . . . .	—	146 00
Hingham Harbor, dredging . . . . .	6,500 00	41,595 12
Hough's Neck Channel, Quincy, dredging . . .	3,500 00	29,856 28
Island End River, Everett, survey . . . . .	—	264 10
Jeffries Point Channel, dredging . . . . .	—	3,009 11
Mystic River (near Lawrence and Wiggin's Wharf), dredging . . . . .	—	5,927 70
Neponset River, dredging . . . . .	10,000 00	101,751 12
Old Harbor Cove, dredging . . . . .	—	9,821 69
Orient Heights Channel, dredging . . . . .	—	45,323 67
Pemberton Point, Hull, breakwater . . . . .	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging . .	3,000 00	14,513 92
Point Allerton, Hull, sea wall . . . . .	50,000 00	75,127 05
Point Shirley, dredging . . . . .	—	3,713 37
Quincy Bay, dredging . . . . .	7,150 00	71,263 17
Shirley Gut, Boston-Winthrop, dredging . . .	—	2,110 96
South Boston, Southerly Shore, dredging . . .	—	129,542 08
Stony Beach, Hull, sea wall . . . . .	—	12,326 09
Town River, Quincy, survey and dredging . . .	14,750 00	16,643 58
Weir River, Hull, dredging . . . . .	25,000 00	130,963 51
Wessagussett Channel, dredging . . . . .	—	815 20
Weymouth, Fore River, dredging . . . . .	8,250 00	69,469 09
Winthrop Harbor Channels, dredging . . . . .	1,700 00	39,783 58
	<hr/>	<hr/>
	\$191,850 00	\$1,045,448 16

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK  
FROM DEC. 1, 1928, TO NOV. 30, 1929

<i>Location and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich, timber fence, riprap and jetties . . . . .	\$600 00	\$3,272 39
Annisquam River, Gloucester, dredging . . .	7,000 00	29,016 99
Bass River, Dennis and Yarmouth, survey . . .	1,500 00	1,570 53
Brant Rock, Marshfield, sea wall repairs . . .	1,230 45	1,153 97
Brewster, Skaket Inlet, survey . . . . .	—	617 19
Connecticut River, surveys . . . . .	—	465 48
Connecticut River, Hadley, earth dike and riprap	—	5,947 95
Connecticut River, Hatfield, earth dike and riprap	—	4,689 95
Connecticut River, Northfield, riprap . . . . .	—	2,934 81
Cotuit Harbor, Cotuit, dredging . . . . .	5,000 00	11,238 65
Duxbury Harbor, Duxbury, survey . . . . .	—	213 30
Falmouth Heights, Falmouth, sea wall repairs .	—	254 00
Great Ponds, survey . . . . .	—	1,728 57
Green Harbor, Marshfield, survey . . . . .	—	165 19
Gun Rock Point, Hull, breakwater repairs . . .	6,135 41	1,828 16
Hoosac River, North Adams, excavation . . .	—	10,868 40
Improvement of rivers and harbors, general ex- penses . . . . .	—	1,817 69
Ipswich River, Ipswich, survey . . . . .	—	90 00
Lewis Bay, Barnstable, dredging . . . . .	2,309 29	23,874 51
Manchester Harbor, Manchester, dredging . . .	6,500 00	13,298 52

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued**Location and Character of Work*

## Contributions Expenditures

Nobscusset Harbor, Dennis, timber fence and riprap . . . . .	\$750 00	\$1,606 38
Oak Bluffs, bulkhead and jetties . . . . .	25,000 00	42,423 55
Plymouth Harbor, survey . . . . .	—	54 49
Provincetown Harbor, shore protection . . . . .	75 00	149 76
Quamquisset Harbor, Falmouth, survey . . . . .	—	710 31
Rock Harbor, Orleans, dredging . . . . .	—	1,159 08
Scituate Harbor, dredging . . . . .	20,000 00	40,362 67
Scituate:		
Cedar Point, sea wall repairs . . . . .	—	139 92
North Scituate, surfside sea wall repairs . . . . .	—	300 00
Seapuit River, Barnstable, dredging . . . . .	—	9,304 87
Waquoit Bay, Falmouth, breakwater repairs . . . . .	—	275 65
West Bay, Barnstable, dredging . . . . .	—	7,121 23
West Harwich, shore protection . . . . .	—	1,009 30
Wild Harbor, Falmouth, survey . . . . .	—	241 84
Winthrop Shore, Winthrop, sea wall repairs . . . . .	—	2,046 22
Wrecks and obstructions, removal of . . . . .	—	8,373 35
	<hr/>	<hr/>
	\$76,100 15	\$230,324 87

## EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1929, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging . . . . .	—	\$119,792 10
Allen's Harbor, Harwich, shore protection riprap and jetties . . . . .	\$8,227 50	\$26,465 72
Allen's Pond, Dartmouth, survey . . . . .	—	195 95
Angle Tree Monument, reservation . . . . .	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap . . . . .	13,250 00	170,975 20
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater . . . . .	—	55,786 05
Barnstable Harbor, dredging . . . . .	1,500 00	18,554 64
Bass River, Beverly, dredging . . . . .	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey . . . . .	4,000 00	116,961 23
Beach Street, Scituate. — See Scituate.		
Beverly Harbor, dredging . . . . .	—	50,000 00 <sup>1</sup>
Brant Rock, Marshfield, sea wall . . . . .	6,556 60	24,756 08
Brewster, Skaket Inlet, survey . . . . .	—	617 19
Buck's Creek, Chatham, jetties, survey and dredging . . . . .	2,500 00	39,719 69
Buzzard's Bay, Falmouth, survey . . . . .	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap . . . . .	16,500 00	42,396 50
Cataumet Harbor. — See Megansett Harbor.		
Cedar Point, Scituate. — See Scituate.		
Centerville River, Barnstable, dredging . . . . .	1,500 00	7,603 22
Cohasset Harbor, Cohasset, breakwater and dredging . . . . .	33,691 88	96,646 39
Concord River, Billerica, removing boulders . . . . .	150 00	1,664 59

<sup>1</sup> \$50,000.00 expended by U. S. Government.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Connecticut River, investigation of navigation and surveys . . . . .	—	\$8,878 96
Connecticut River, Agawam, protective work . . . . .	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap . . . . .	\$640 00	25,789 02
Connecticut River, Hadley, protective work, diversion wall and survey . . . . .	5,000 00	118,740 95 <sup>1</sup>
Connecticut River, Hatfield, dikes and riprap . . . . .	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work . . . . .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers . . . . .	—	1,195 32
Connecticut River, Northampton, protective work . . . . .	—	1,524 20
Connecticut River, Northfield, riprap . . . . .	—	9,028 90
Connecticut River, South Hadley, wall . . . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work . . . . .	—	12,510 08 <sup>2</sup>
Conservation of waters, investigation . . . . .	—	67,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs . . . . .	13,183 38	81,303 99
Cuttyhunk Harbor, Gosnold, jetties and dredging . . . . .	9,000 00	70,754 18
Deacon's Pond Harbor.—See Falmouth Inner Harbor.		
Duxbury Bay and Harbor, dredging . . . . .	2,000 00	42,815 59
East Bay, Osterville, jetties, dredging and removing scows . . . . .	10,000 00	70,924 23
Edgartown Harbor, survey and cut in beach . . . . .	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs . . . . .	—	19,660 43
Essex County beaches, survey . . . . .	—	1,000 00
Essex River, Essex, dredging . . . . .	—	76,304 33 <sup>3</sup>
Fall River Harbor, improvement . . . . .	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap . . . . .	16,222 54	57,963 13
Falmouth Inner Harbor, dredging, jetties, wall and riprap . . . . .	29,000 00	143,734 26
First and Second Cliffs, Scituate.—See Scituate.		
Fresh Water Cove, Gloucester, dredging . . . . .	3,300 00	17,477 53
Gay Head, survey . . . . .	—	555 42
Glades, North Scituate.—See Scituate.		
Gloucester, Western Avenue, sea wall . . . . .	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges . . . . .	7,500 00	118,994 65
Great Head, Winthrop.—See Winthrop Shore.		
Great Ponds, survey . . . . .	—	13,872 13
Green Harbor, Marshfield, jetties, dredging, and survey . . . . .	—	76,632 04
Gun Rock Point, Hull, breakwater . . . . .	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging . . . . .	3,866 00	25,155 04
Herring Creek, Scituate, survey . . . . .	—	253 76
Herring River, Harwich, jetties, dredging and fence . . . . .	2,500 00	58,181 14
Herring River, Wellfleet, dikes and ditches . . . . .	10,000 00	34,509 38

<sup>1</sup> From 1888 inclusive.<sup>2</sup> From 1891 inclusive.<sup>3</sup> \$5,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Hoosac River, North Adams, excavation and survey . . . . .	—	\$21,271 67
Housatonic River, Sheffield, survey . . . . .	—	2,011 29
Hull, sea wall and survey . . . . .	\$8,882 06	37,906 21
Humarock Beach, Scituate. — See Scituate.		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of rivers and harbors, general ex- penses . . . . .	—	32,935 68
Ipswich River, Ipswich, jetty, wall, riprap and dredging . . . . .	3,800 00	59,079 55
King's Beach, Swampscott, removal of obstruc- tion . . . . .	—	166 41
Lake Anthony, Oak Bluffs, jetties and dredging	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, investigation .	—	345 32
Lewis Bay, Barnstable, survey and dredging .	18,809 29	66,631 28
Little Harbor, Marblehead, dredging . . . . .	2,500 00	11,166 16
Little River, Gloucester, survey . . . . .	—	862 93
Lobster Cove, Gloucester, dredging . . . . .	4,500 00	61,603 36
Lynn Harbor, anchorage basin, survey and dredging . . . . .	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling . . . . .	37,500 00	163,431 53
Manchester Harbor, survey, jetties and dredging	70,000 00	163,776 57
Mattapoissett Harbor, survey . . . . .	—	255 48
Megansett Harbor, dredging . . . . .	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head jet- ties, dredging, sea wall and riprap . . . . .	2,700 00	116,992 11
Merrimack River, investigation and survey .	—	1,208 50
Mill River, Gloucester, survey and dredging .	300 00	24,899 59
Mitchell's River, Chatham, survey and dredging	6,000 00	23,113 92
Nahant, survey . . . . .	—	82 15
Namequoit River and Pleasant Bay, dredging .	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond . . . . .	—	110 66
Nantucket Harbor, dredging . . . . .	5,000 00	58,982 52
Nauset Harbor and Town Cove, dredging . . .	2,000 00	10,671 24
New Bedford Harbor, dredging . . . . .	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 <sup>1</sup>	494,133 33
New Bedford State Pier, operation and mainte- nance . . . . .	—	50,714 09
Newburyport Harbor, survey . . . . .	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap . . . . .	1,950 00	41,385 22
North River, Marshfield, surveys and removing rocks . . . . .	1,800 00	8,658 75
North River, Salem, survey . . . . .	—	704 52
North Scituate. — See Scituate.		
Oak Bluffs, removing rocks . . . . .	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties . .	52,500 00	132,745 53
Ocean Grove, Swansea, survey . . . . .	—	143 23
Onset Bay, Wareham, survey and dredging . .	1,000 00	15,295 89
Orleans, survey . . . . .	—	104 18
Palmer's Pond, Falmouth, survey . . . . .	—	358 76
Pamet River, Truro, survey, dredging and re- pairing jetties . . . . .	1,200 00	198,010 32

<sup>1</sup> Paid by Surety Company.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Paskamansett River, Dartmouth, dredging and jetty	—	\$5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	\$600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	71,794 55 <sup>1</sup>	282,686 62
Plymouth Memorial Park, maintenance	—	31,077 85
Point Shirley, Winthrop.— See Winthrop Shore.		
Popponnessett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	126,072 28
Provincetown Harbor, shore protection	75 00	28,559 87
Quamquisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,070 96
Rockport Harbor, dredging and removing rocks	500 00	15,555 58
Salem Harbor, survey	—	1,509 92
Salt Pond River, Eastham, survey	—	210 11
Salter's Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate.— See Scituate.		
Sandwich Harbor, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus	2,000 00	20,845 17
Scituate, shore protection:—		
Beach Street, Scituate, wall and jetties	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446 64	37,445 32
First and Second Cliffs, Scituate, wall and riprap	2,297 92	13,053 52
Glades, North Scituate, filling and riprap	13,250 78	29,534 54
Humarock Beach, Scituate, survey wall and jetties	37,816 38	57,279 06
North Scituate, Surfside, spur jetties	1,757 60	16,866 19
Sand Hills, Scituate, wall and jetties	4,511 26	12,624 06
Third Cliff, Scituate, riprap and survey	75,193 10	121,353 34
Scituate Harbor, dredging and surveys	33,300 00	165,648 78
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	97 05
Sippican Harbor, Marion, survey	—	7 17
Smith's Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	10,803 01
Taunton, Brockton waterways, investigation	—	5,278 18
Taunton River, survey and dredging	12,500 00	28,697 18

<sup>1</sup> \$57,000.00 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Taunton River, Boston Harbor Canal, survey .	—	\$9,932 75
Taunton River, Massachusetts Bay Canal, survey . . . . .	—	11,786 71
Third Cliff, Scituate. — See Scituate.		
Vineyard Haven Harbor, repairing sea wall .	\$2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging . . . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall and bulkhead . . . . .	2,000 00	57,424 50
Wareham River, survey and dredging . . . . .	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey .	9,713 98	25,099 86
Watch Hill, Chatham, survey and riprap . . .	—	14,968 75
Water conservation. — See conservation of waters.		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable, and Osterville, survey, jetties and dredging . . . . .	15,000 00	109,931 84
West Falmouth Harbor, Falmouth, dredging and breakwater . . . . .	11,473 75	63,350 92
West Harwich, survey . . . . .	3,500 00	13,493 41
Westfield River, Westfield, survey and jetties .	—	6,037 29
Westport Harbor, Westport, jetty extension .	—	19,025 07
Wild Harbor, Falmouth, jetty and dredging .	5,000 00	36,379 55
Winthrop Shore, sea walls and protective work	40,500 00	97,343 71
Witchmere Harbor, Harwich, jetties and dredging . . . . .	3,000 00	55,541 69
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tidewater . . . . .	—	18,836 43
Yarmouthport Harbor, survey . . . . .	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,008,088 42	\$6,564,451 78

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1929, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement*  
(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1929)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor . . . . .	\$500,900 00	\$500,900 00
Gloucester Harbor . . . . .	538,183 00	538,183 00
Beverly Harbor . . . . .	246,690 41	246,690 41 <sup>1</sup>
Salem Harbor . . . . .	71,368 66	71,368 66
Lynn Harbor . . . . .	471,937 00	471,937 00
Mystic River . . . . .	306,684 84	306,684 84
Boston Harbor . . . . .	13,393,281 24	13,439,862 58
Dorchester Bay and Neponset River .	95,166 23	136,908 90
Weymouth Fore River . . . . .	641,150 00	641,150 00 <sup>2</sup>
Weymouth Back River . . . . .	27,000 00	27,000 00
Scituate Harbor . . . . .	104,590 98	126,590 98
Plymouth Harbor . . . . .	421,184 80	421,184 80

<sup>1</sup> In addition \$100,000 has been contributed by local interests.  
<sup>2</sup> In addition \$108,400 has been contributed by local interests.



EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Cape Cod Canal . . . . .	\$11,704,205 69 <sup>1</sup>	\$11,829,555 45
Operating and care of Cape Cod Canal . . . . .	—	258,283 82
Provincetown Harbor . . . . .	348,062 72	348,062 72
Pollock Rip Shoals, Nantucket Sound . . . . .	1,269,843 06	1,290,000 00
Harbor of Refuge at Nantucket . . . . .	633,348 64	688,473 50
New Bedford and Fairhaven Harbor . . . . .	935,852 58	938,110 00
Fall River Harbor . . . . .	411,614 07	411,614 07
Taunton River . . . . .	204,329 19	204,689 18
	<hr/>	<hr/>
	\$32,325,393 11	\$32,897,249 91

TABLE No. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River . . . . .	\$404,466 72	\$404,466 72
Malden River . . . . .	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge . . . . .	1,941,478 00	1,941,478 00
Bass River . . . . .	20,150 34	20,150 41
Buzzards Bay Harbor . . . . .	2,500 00	2,500 00
Canapitset Channel . . . . .	5,312 54	9,800 00
Chatham Harbor . . . . .	12,171 36	13,732 79
Cohasset Harbor . . . . .	10,000 00	10,000 00
Duxbury Harbor . . . . .	37,000 00	37,000 00
East Dennis breakwater . . . . .	7 57	1,500 00
Edgartown Harbor . . . . .	25,000 00	25,000 00
Essex River . . . . .	30,000 00	30,000 00
Hingham Harbor . . . . .	38,316 58	39,000 00
Hyannis Harbor . . . . .	221,267 07	221,267 07
Ipswich River . . . . .	5,617 91	7,500 00
Kingston Harbor . . . . .	8,940 09	10,000 00
Little Harbor, Woods Hole . . . . .	18,000 00	18,000 00
Manchester Harbor . . . . .	23,985 57	24,300 00
Marblehead Harbor . . . . .	833 42	1,900 00
Martha's Vineyard Harbor . . . . .	7,000 00	7,000 00
Powow River . . . . .	50,940 72	51,000 00
Rockport Harbor . . . . .	91,229 25	91,232 57
Town River . . . . .	37,577 41	37,577 41
Vineyard Haven Harbor . . . . .	55,387 35	60,000 00
Wareham Harbor . . . . .	95,997 30	96,236 00
Wellfleet Harbor . . . . .	11,365 57	16,000 00
Westport Harbor and River . . . . .	3,000 00	3,000 00
Winthrop Harbor . . . . .	9,000 00	9,000 00
Woods Hole Channel . . . . .	343,599 92	344,000 00
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Total . . . . .	\$3,660,094 69	\$3,682,590 97
	<i>Recapitulation</i>	
Total of Table No. 1 . . . . .	\$32,325,393 11	\$32,897,249 91
Total of Table No. 2 . . . . .	3,660,094 69	3,682,590 97
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Grand total . . . . .	\$35,985,487 80	\$36,579,840 88

<sup>1</sup> Includes \$11,500,000 purchase price of canal.

P.D. 54

## EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1929

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper <sup>1</sup> . . . . .	\$13,393,281 24	\$13,439,862 58
Mystic River . . . . .	306,684 84	306,684 84
	<hr/>	<hr/>
	\$13,699,966 08	\$13,746,547 42

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<sup>1</sup> Including Chelsea Creek.



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
160	West Bay, Barnstable, dredging . . .	Wianno Dredge Company, Inc. . .	Jan. 9, 1928
176	Seapuit River, Barnstable, dredging . .	Trimount Dredging Company . .	Sept. 4, 1928
180	Connecticut River, Hatfield, earth dike and riprap.	Kelleher Corporation . . .	Oct. 2, 1928
182	Hoosic River, North Adams . . .	Warner Bros. & Goodwin, Inc. . .	Oct. 16, 1928
183	Commonwealth Pier No. 5, build engineering offices.	George W. Nicoll Co., Inc. . .	Oct. 23, 1928
184	Lewis Bay, Barnstable and Yarmouth, dredging.	Bay State Dredging and Contracting Co.	Oct. 23, 1928
186	Commonwealth Pier No. 5, stairs to cargo hoists	Progressive Iron Works, Inc. . .	Dec. 11, 1928
187	Commonwealth Pier No. 5, motor generator set	M. B. Foster Electric Company . .	Jan. 29, 1929
188	Storehouses on D and E streets, repairing platforms . . .	Hill & Delaney . . . . .	Feb. 19, 1929
189	Commonwealth Pier No. 5, laying water pipes.	M. DeSisto Company . . . . .	Mar. 5, 1929
190	Point Shirley, Winthrop, repairs to sea wall.	National Gunitite Contracting Company.	April 2, 1929
191	Manchester Harbor, dredging . . .	Bay State Dredging and Contracting Company.	Mar. 26, 1929
192	Commonwealth Pier No. 5, additional heating and sprinklers.	Pierce & Cox . . . . .	Apr. 2, 1929
193	Scituate Harbor, dredging . . . . .	Bay State Dredging and Contracting Company.	April 9, 1929
194	Commonwealth Pier No. 5, building room for restaurant.	Carl S. Helrich . . . . .	April 23, 1929
195	Commonwealth Pier No. 5, painting rooms and passageways.	Thomas J. Walsh . . . . .	April 16, 1929
196	Wollaston Channel and Basin, dredging.	Bay State Dredging and Contracting Company.	May 28, 1929
197	Commonwealth Pier No. 5, replacing broken lights of glass.	Maurice M. Devine . . . . .	May 7, 1929

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Amount of Contract
Completed Aug. 17, 1929	For dredging and disposing of dredged material, 42 cents per cubic yard of material measured in place.	\$6,510 46	\$17,796 66	\$18,074 00
Completed Jan. 7, 1929	For removing boulders, \$14 per cubic yard. For dredging and disposing of dredged material within specified areas, 32 cents per cubic yard, measured in place. For removing and disposing of boulders, \$20 per cubic yard.	8,822 30	24,227 84	23,200 00
Completed Dec. 1, 1928	For furnishing and placing riprap, \$2.35 per ton of stone in place on bank of river. For furnishing materials and constructing dike, 84 cents for each cubic yard measured in place in completed work.	4,579 63	30,531 52	30,000 00
Completed May 18, 1929	For excavating material from bed of river or on side slopes and depositing it within fifty feet of point where excavated, grading fill, and all incidental work, \$1.00 for each cubic yard measured in place. For excavating material from river and disposing of it in disposal areas west of Brown Street Bridge and south of concrete wall at Willow Dell Street, \$2.00 for each cubic yard measured in place. For excavating boulders and disposing of them in area designated, \$4.00 for each cubic yard. For removing from river bed stumps, logs or other debris, \$25 for each obstruction removed.	7,912 12	17,213 36	19,000 00
Completed Feb. 21, 1929	For furnishing labor and materials and building engineering offices and rooms, \$53,630. For removing broken glass and furnishing and setting new wire glass, \$1.30 for each light of glass placed.	52,208 65	68,163 58	64,000 00
Completed Jan. 8, 1929	For reputting glass, 80 cents per light of glass. For dredging and disposing of dredged material, 52 cents for each cubic yard measured in scows.	22,158 01	34,364 72	30,020 00
Completed Jan. 30, 1929	For removing boulders, \$20 for each cubic yard. For furnishing labor and materials for building stairs to cargo hoists, \$97 for each set of stairs.	582 00	582 00	582 00
Completed Mar. 13, 1929	For furnishing labor and materials and installing motor generator set, the lump sum of \$1,689.	1,832 10	1,832 10	1,689 00
Completed Mar. 20, 1929	Unit prices . . . . .	3,826 61	3,826 61	2,310 00
Completed Apr. 13, 1929	Lump sum of \$1,300 . . . . .	1,300 00	1,300 00	1,300 00
Completed Apr. 29, 1929	For cost of transporting men and plant, \$220. For furnishing all reinforcing steel and bolts and fastening, 13 cents per square foot measured in place. For furnishing cement, sand, water, power, equipment, labor and materials, \$3.80 for each bag of cement used in completed gunite work. For excavating trench along face of wall, \$1.00 per cubic yard measured in place.	1,925 82	1,925 82	1,814 00
Completed June 4, 1929	For dredging area "A," \$1.10 per cubic yard, scow measurement. For removing and disposing of boulders, \$20 for each cubic yard. For dredging areas "B" and "C" 49 cents per cubic yard, scow measurement.	11,797 91	11,797 91	12,500 00
Completed May 7, 1929	Lump sum of \$1,830 . . . . .	1,878 00	1,878 00	1,830 00
Completed June 24, 1929	For dredging and disposing of material at sea, 54.8 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	38,995 60	38,995 60	39,000 00
Completed Nov. 15, 1929	Lump sum of \$9,829 . . . . .	11,540 80	11,540 80	9,829 00
Completed June 22, 1929	Lump sum of \$5,400 . . . . .	5,500 00	5,500 00	5,400 00
Completed June 25, 1929	For dredging, 55 cents per cubic yard, scow measurement. For removing boulders, \$20 for each cubic yard.	16,564 35	16,564 35	16,600 00
Completed June 11, 1929	For removing broken glass, furnishing and setting new wire glass, 92 cents for each light of glass set.	1,044 20	1,044 20	1,012 00



## CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
198	Connecticut River, Northfield, riprap . . .	Kelleher Corporation . . .	May 21, 1929
199	Oak Bluffs, timber bulkhead and jetties.	C. W. Blakeslee & Sons, Inc. . .	July 2, 1929
200	Annisquam River, dredging . . . . .	Bay State Dredging and Contracting Company.	June 11, 1929
201	Savin Hill Bay and Dorechester Bay, dredging.	Trimount Dredging Company . .	July 16, 1929
202	Cotuit Harbor, Barnstable, dredging . .	William E. Burke . . . . .	July 30, 1929
204	D Street Storehouse, repairs to platforms.	Geo. W. Nicoll Co., Inc. . . . .	Sept. 3, 1929
205	Town River, Quiney, dredging . . . . .	Bay State Dredging and Contracting Company.	Sept. 17, 1929
206	Boston Airport, East Boston, moving hangars.	The John Cavanagh and Son Building Moving Co.	Sept. 4, 1929
208	Commonwealth Pier 5, wooden bridges over railroad tracks.	Maurice M. Devine . . . . .	Oct. 22, 1929
209	Motor boat <i>Buoyant</i> , building house . .	Willis J. Reid . . . . .	Oct. 22, 1929
210	Revere, removal of wreck . . . . .	The Rendle Corporation . . . .	Oct. 8, 1929
211	West Harwich, shore protection . . . .	Edward E. Crowell and Isaiah Kelley.	Oct. 29, 1929
213	Bass River, Yarmouth, extension of easterly jetty.	Bay State Dredging & Contracting Co.	Nov. 19, 1929
214	Commonwealth Pier 5, repairs to timber platforms.	W. H. Ellis & Son Co. . . . .	Nov. 27, 1929
215	Hull, sea wall; Gun Rock—Green Hill, spur jetties.	Bradford Weston . . . . .	Nov. 19, 1929
216	Boston Airport, miscellaneous repairs to hangars of M. N. G.	Hill & Delaney . . . . .	Nov. 26, 1929
217	Commonwealth Pier 5, repairs to floor surfacing.	Reynolds Bros., Inc. . . . .	Nov. 27, 1929
218	Ramp and portion of D Street, repaving	A. DeStefano & Sons, Inc. . . .	Nov. 27, 1929
219	D Street storehouse, cement plaster surfacing on walls.	Maurice M. Devine . . . . .	Nov. 27, 1929
220	Commonwealth Pier 5, indicator posts and gate valves on water pipes.	M. DeSisto Company . . . . .	Nov. 27, 1929

## AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Amount of Contract
Completed July 1, 1929	For furnishing and placing riprap \$2.40 for each ton of riprap furnished in place.	\$2,886 82	\$2,886 82	\$2,880 00
Completed Oct. 28, 1929	For furnishing all materials and building main creosoted bulkhead, \$16 per linear foot of completed bulkhead in place.	40,948 66	40,948 66	47,050 00
	For furnishing all materials and building creosoted timber spur jetties, \$8 per linear foot of completed jetty in place.			
	For filling, \$2.70 per cubic yard of material measured in place.			
Completed Sept. 24, 1929	For dredging 51 cents per cubic yard, scow measurement.	26,035 88	26,035 88	26,540 00
In progress	For removing boulders \$20 per cubic yard.			
	For dredging channels, 40 cents per cubic yard measured in situ.	41,582 30	41,582 30	113,418 00
	For dredging flats, 49 cents per cubic yard measured in situ.			
	For removing and disposing of boulders, \$18 per cubic yard.			
Completed Nov. 27, 1929	For dredging, 65 cents per cubic yard, scow measurement.	8,789 72	8,789 72	9,115 00
	For removing and disposing of boulders, \$15 per cubic yard.			
In progress	Unit prices . . . . .	794 47	794 47	2,277 00
In progress	For dredging channel and disposing of dredged material, 49 cents per cubic yard, scow measurement.	14,876 55	14,876 55	40,200 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Nov. 20, 1929	Items 1-5. Unit prices. (New foundations, etc.)	15,649 72	15,649 72	16,826 55
	Item 6. For moving each hangar \$2,800 for each one moved and erected complete in new foundations.			
	Item 7. For moving complete three small buildings to new location, \$2,000 for the three buildings in place.			
In progress	For making and installing wooden bridges over railroad tracks in track pit, \$249 each.	1,015 92	1,015 92	1,992 00
Completed Nov. 12, 1929	Lump sum of \$590 . . . . .	501 50	501 50	590 00
Completed Nov. 20, 1929	Lump sum of \$9,500 . . . . .	8,075 00	8,075 00	9,500 00
Not yet begun	For furnishing materials and building wire fence, \$1.55 for each linear foot.	-	-	5,087 10
	For furnishing materials and building wire spur jetties, \$1.55 for each linear foot.			
Not yet begun	For furnishing and placing stone riprap and chips in jetty, \$6.15 for each ton of 2,000 pounds.	-	-	22,140 00
Not yet begun	For furnishing, driving, fitting and securing fender piles on sides and end of pier, \$72 each.	-	-	758 00
	For furnishing, driving, fitting and securing new foundation piles, \$74 each.	-	-	758 00
	For furnishing and placing screw bolts, drift bolts, iron bands and fitting, 15 cents per pound.			
	For furnishing, fitting and securing yellow pine lumber in fender cap and platforms \$148 for 1,500 ft. B. M.			
Not yet begun	\$15 for each cubic yard of concrete in place in completed work.	-	-	525 00
Not yet begun	For installation of toilet room, complete, \$2,300.	-	-	3,465 00
	For furnishing and laying 2-inch water and 4-inch sewer pipes, including excavation, back fill and all incidental work, \$675.			
	For removal of boiler, \$150.			
	For each 1,000 ft. B. M. of lumber furnished and erected in storage platform, \$85.			
Not yet begun	Unit prices . . . . .	-	-	4,340 00
Not yet begun	Unit prices . . . . .	-	-	12,787 25
Not yet begun	For furnishing and placing cement plaster surfacing ½ inch thick on tile wall, \$2.25 per square yard measured in place in the completed work.	-	-	945 00
Not yet begun	For furnishing and installing complete, gate valves, indicator posts, offset line and wheel guards, including all incidental work, the lump sum of \$1,050.	-	-	1,050 00



## CONTRACTS COMPLETED IN 1928 UNDER WHICH

CON-TRACT No.	Work	Contractor	Date
159	Commonwealth Pier No. 1, East Boston, repairing timber platforms.	W. A. Norton . . . . .	Oct. 26, 1927
173	Commonwealth Pier No. 5, South Boston, repairing plaster walls.	Cement Gun Company . . . .	Aug. 7, 1928
177	Castle Island, South Boston, repairs to sea wall.	Bay State Dredging and Contracting Company.	Sept. 18, 1928
178	Allen's Harbor, Harwich, timber fence and riprap.	George W. Starbuck . . . . .	Sept. 18, 1928
179	Gun Rock Point, Hull, repairs to break-water.	Bay State Dredging and Contracting Company .	Sept. 25, 1928
181	Connecticut River, Hadley, earth dike .	Kelleher Corporation . . . .	Oct. 2, 1928
185	Rock Harbor, Eastham and Orleans, dredging.	Bay State Dredging and Contracting Company.	Oct. 23, 1928

FINAL PAYMENTS WERE MADE IN 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Cost
Completed Dec. 20, 1927	Unit prices . . . . .	\$678 12	\$2,336 84	\$2,263 00
Completed Oct. 23, 1928	Unit prices . . . . .	1,442 31	9,615 37	8,918 20
Completed Oct. 27, 1928	Unit prices . . . . .	837 74	5,584 91	5,385 00
Completed Oct. 30, 1928	For furnishing materials and labor to build timber fence, \$5.73 for each linear foot of completed fence.	315 62	2,104 10	1,978 00
	For furnishing and placing stone riprap, \$5.13 for each ton of 2,000 pounds.			
	For moving and depositing as riprap along the slope of the fill, 50 tons of stone chips, \$62.50.			
Completed Oct. 20, 1928	For furnishing and placing heavy stone riprap \$4.87 for each ton of 2,000 pounds in place in the completed work.	1,828 16	12,187 76	12,175 00
Completed Nov. 26, 1928	For furnishing materials and constructing dike, 84 cents per cubic yard measured in place in completed dike.	4,324 85	4,324 85	4,014 00
	For moving tobacco barn and shed and placing them on new foundations, the lump sum of \$150.			
Completed Nov. 22, 1928	For dredging channel and disposing of dredged material within area marked Disposal Area, 55 cents for each cubic yard measured in place.	1,084 46	7,229 75	7,500 00



LETTER CONTRACTS MADE BY THE DEPARTMENT

Contractor	Work
Barry, Frank H. . . . .	Scituate and North Scituate, sea wall repairs . . . . .
Barry, Frank H. . . . .	Brant Rock, Marshfield, sea wall repairs . . . . .
Barry Building Wrecking Co. . . . .	Fargo, D and E streets, South Boston, removing poles and wires.
Brooks, S. W. K. . . . .	Commonwealth Pier No. 5, repairing fender and chains.
Brooks, S. W. K. . . . .	Commonwealth Pier No. 5, repairing passenger gangways.
Byrne, Louis A. . . . .	Cotuit, removing damaged portions of timber bulkhead.
Byrne, Louis A. . . . .	Allen's Harbor, Harwich, repairing timber jetty . . . . .
Byrne, Louis A. . . . .	West Harwich, construction of wire fencing . . . . .
Davis, John A. . . . .	Waquoit Harbor, breakwater repairs . . . . .
DeStefano & Sons, Inc., A. . . . .	D and Cypher streets, South Boston, paving between tracks.
Dinn, P. J., & Company . . . . .	Viaduct and ramp, South Boston, repairs to pipe rail fence.
Duffy, Owen W., & Company . . . . .	Allen's Harbor, Harwich, timber fence and riprap . . . . .
Duffy, Owen W., & Company . . . . .	Allen's Harbor, Harwich, fencing, back fill and riprap . . . . .
Farquhar's Sons, Inc., J. J. . . . .	D Street Stores, South Boston, roof repairs . . . . .
Finney, John B. . . . .	Plymouth, furnishing and applying fertilizer . . . . .
General Fire Extinguisher Co. . . . .	D Street Stores, South Boston, repairing fire sprinklers.
General Fire Extinguisher Co. . . . .	Commonwealth Pier No. 5, South Boston, repairing fire sprinkler.
Grant, B. E., Co. . . . .	C and Cypher streets, South Boston, repairing tracks.
Hersey, A. A., & Sons Company . . . . .	Commonwealth Pier No. 5, repairing timber platforms.
Helrich, Carl S. . . . .	Viaduct and ramp, South Boston, repairing fence . . . . .
Nicoll, George W., Co. . . . .	D Street Stores, South Boston, removing partitions . . . . .
N. Y., N. H. & H. R. R. Co. . . . .	D and Cypher streets, South Boston, changes in railroad tracks.
Pierce & Cox . . . . .	Commonwealth Pier No. 5, repairs to heating system . . . . .
Russo, P. F., Co., Inc. . . . .	Commonwealth Pier No. 5, furnishing and installing two lavatories.
Standard Steel and Iron Works . . . . .	Commonwealth Pier No. 5, installing new ladders and repairing existing iron ladders
Starbuck, George W. . . . .	Nobscusset Harbor, Dennis, timber fence and ripraps.
Starbuck, George W. . . . .	State Pier, Plymouth, repairs to deck . . . . .
Starbuck, George W. . . . .	Falmouth Heights, sea wall repairs . . . . .
Starbuck, George W. . . . .	Provincetown, construction of wire fencing . . . . .
Wall, Thomas F. . . . .	Commonwealth Pier No. 5, repairing Kinnear and Ogden doors.
Welch, J., and Son . . . . .	Commonwealth Pier No. 5, repairing boiler settings . . . . .
White, Antonio . . . . .	Oak Bluffs, placing filling back of bulkhead . . . . .
Worthington Pump & Machinery Corp. . . . .	Commonwealth Pier No. 5, repairing vacuum pump . . . . .

LETTER CONTRACTS COMPLETED IN 1928 UNDER WHICH

Contractor	Work
Hauserman, E. F., Co. . . . .	Commonwealth Pier No. 5, furnishing and erecting steel office partition (Registry of Motor Vehicles).
Massachusetts Cornice Co. . . . .	Commonwealth Pier No. 5, repairing copper skylights.

P.D. 54

## OF PUBLIC WORKS IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Date	Condition of Work	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929
Oct. 9, 1929	In progress . . . . .	\$439 92	\$439 92
April 23, 1929	Completed June 12, 1929 . . . . .	971 37	971 37
Nov. 16, 1929	Completed Nov. 22, 1929 . . . . .	150 00	150 00
May 27, 1929	Completed June 4, 1929 . . . . .	50 00	50 00
Dec. 5, 1928	Completed Jan. 15, 1929 . . . . .	786 10	786 10
Sept. 14, 1929	Completed Oct. 20, 1929 . . . . .	245 65	245 65
Mar. 1, 1929	Completed March 19, 1929 . . . . .	26 04	26 04
{ Nov. 20, 1928 }	{ Completed Dec. 8, 1928 . . . . . }	{ 569 80 }	1,009 30
{ Jan. 16, 1929 }	{ Completed Jan. 19, 1929 . . . . . }	{ 146 50 }	
{ Aug. 27, 1929 }	{ Completed Sept. 10, 1929 . . . . . }	{ 293 00 }	
Nov. 2, 1928	Completed Dec. 7, 1928 . . . . .	191 10	1,274 00
Aug. 28, 1929	Completed Sept. 19, 1929 . . . . .	171 82	171 82
Sept. 17, 1929	Completed Sept. 28, 1929 . . . . .	60 00	60 00
Aug. 2, 1929	Completed Sept. 17, 1929 . . . . .	1,229 70	1,229 70
Aug. 20, 1929	Completed Sept. 17, 1929 . . . . .	1,109 20	1,109 20
Aug. 1, 1929	In progress . . . . .	1,476 76	1,476 76
Mar. 21, 1929	Completed April 10, 1929 . . . . .	275 00	275 00
Oct. 9, 1929	Completed Oct. 12, 1929 . . . . .	-	-
Oct. 1, 1929	Completed Oct. 12, 1929 . . . . .	-	-
{ June 8, 1929 }	{ Completed Aug. 20, 1929 . . . . . }	351 05	351 05
{ Aug. 29, 1929 }	{ Completed Aug. 20, 1929 . . . . . }	98 6	98 00
Mar. 8, 1929	Completed April 3, 1929 . . . . .	50 00	50 00
Oct. 1, 1929	Completed Oct. 31, 1929 . . . . .	320 00	320 00
Aug. 21, 1929	Completed Aug. 29, 1929 . . . . .	1,273 20	1,273 20
Aug. 28, 1929	Completed Sept. 3, 1929 . . . . .	-	-
Oct. 1, 1929	In progress . . . . .	-	-
Nov. 27, 1929	In progress . . . . .	-	-
{ Dec. 19, 1928 }	{ Completed Jan. 21, 1929 . . . . . }	178 90	210 90
{ Feb. 27, 1929 }	{ Completed March 4, 1929 . . . . . }	32 00	
June 18, 1929	Completed July 27, 1929 . . . . .	1,353 38	1,353 38
June 3, 1929	Completed July 5, 1929 . . . . .	929 48	929 48
Mar. 27, 1929	Completed April 10, 1929 . . . . .	254 00	254 00
Dec. 10, 1928	Completed Jan. 4, 1929 . . . . .	149 76	149 76
Aug. 21, 1929	In progress . . . . .	-	-
Aug. 29, 1929	Completed Sept. 28, 1929 . . . . .	547 80	547 80
Nov. 22, 1929	In progress . . . . .	-	-
July 30, 1929	Completed Aug. 29, 1929 . . . . .	237 50	237 50

## FINAL PAYMENTS WERE MADE DURING 1929

Date	Condition of Work	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929
Sept. 10, 1928	Completed Nov. 28, 1928 . . . . .	\$50 70	\$338 00
Nov. 2, 1928	Completed Nov. 22, 1928 . . . . .	111 07	740 55



# INDEX

## General

	PAGE
Appropriations . . . . .	5
Financial Statements . . . . .	13
Expenditures . . . . .	14
Receipts . . . . .	13
Organization, under chapter 16, General Laws, as amended . . . . .	1
Personnel . . . . .	1
Recommendations for Legislation . . . . .	3
Special Reports by Department of Public Works . . . . .	3

## Relating to Highways

Advertising Signs and Devices within the Public View . . . . .	47
Bridges, in general . . . . .	31
Fall River-Somerset, — over Taunton River . . . . .	35
Newburyport-Salisbury, — over Merrimack River . . . . .	35
Common Carriers, Permits to use Highways . . . . .	47
Contract Prices, Dec. 1, 1928 to Nov. 30, 1929 . . . . .	48
Contracts signed during the year . . . . .	18
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties . . . . .	15
Expenditures, Summary for the Year . . . . .	14
Federal Aid in Constructing Highways . . . . .	26
Allotments to Massachusetts . . . . .	27
Mileage . . . . .	27
Statement of Road Projects . . . . .	27
General Statement as to Surveys, Plans, Estimates and other Work during the Year . . . . .	16
Highway Fund . . . . .	13
Highway Improvements authorized by Special Acts . . . . .	26
Braintree, Weymouth, Hingham, Cambridge, Malden, Quincy. . . . .	
Petitions, Meetings and Hearings . . . . .	15
Public Ways, exclusive of State Highways, in certain Towns . . . . .	41
Allotments or Contributions by the State and Towns . . . . .	41
Expenditures in Various Counties and Towns . . . . .	44
Towns where Work has been contracted for . . . . .	41
State Highways . . . . .	17
Construction and Reconstruction . . . . .	18
Contracts entered into for Work in Various Municipalities . . . . .	18
Expenditures in Various Counties and Municipalities . . . . .	23
Contracts for Reconstruction in anticipation of an appropriation . . . . .	45
Maintenance and Repair . . . . .	24
Expenditures in Various Counties and Municipalities . . . . .	24
Permits issued for Opening or Occupying State Highways . . . . .	16
Petitions received during the Year . . . . .	15
Regulation of Traffic during Winter 1928-1929 . . . . .	46
Removal of Snow and Ice . . . . .	25
Resurfacing and Widening . . . . .	16
Roadside Maintenance and Development . . . . .	46
Traffic Rules and Regulations relative to State Highways and Through Ways . . . . .	2
Traffic Signs, Lights, Markings, etc. . . . .	46
Town and County Ways . . . . .	36
Allotments or Contributions by the State, Towns and Counties . . . . .	36
Expenditures in Various Counties and Towns . . . . .	40
Towns where Work has been contracted for . . . . .	36
Type of Road and Length contracted for . . . . .	36

*Relating to Registry of Motor Vehicles*

PAGE

Accident Report Letters . . . . .	58
Aircraft . . . . .	56
Analysis of Court Abstracts received . . . . .	60
Branch Offices . . . . .	55
Comparative Statement showing Ratio of Yearly Registrations to Deaths and Injuries; and Suspensions, etc. . . . .	58
Conference of Motor Vehicle Administrators . . . . .	61
Examinations for Licenses . . . . .	54
Expenditures for 1929 . . . . .	62
Headlighting . . . . .	57
Insurance, Motor Vehicle Liability . . . . .	55
Investigations and Prosecutions by Inspectors . . . . .	58
Motor Vehicle Deaths, Injuries, Collisions . . . . .	57
Number of Children killed and injured . . . . .	57
Number of Collisions . . . . .	57
Number of Persons killed and injured . . . . .	57
Motor Vehicle Equipment, Inspection of . . . . .	56
Rear Lamps . . . . .	57
Registrations, Licenses, Fees . . . . .	54
Cost of Running the Registry of Motor Vehicles . . . . .	62
Court Fines received by the Treasurer and Receiver General . . . . .	62
Motor Vehicle Fees Rebated . . . . .	62
Passenger Cars, Commercial Vehicles and Motor Cycles . . . . .	54
Receipts, Analysis of . . . . .	61
Total Receipts credited Highway Fund, 1929 . . . . .	62
Revocations and Suspensions for 1928-1929 . . . . .	59
Used-car Section . . . . .	60
Motor Vehicle Identification . . . . .	60
Engine Numbers assigned . . . . .	61
Motor Vehicles stolen . . . . .	61
Reports . . . . .	61

*Relating to Waterways and Public Lands*

Allen's Harbor, Harwich . . . . .	68
Annisquam River, Gloucester . . . . .	68
Bass River, Dennis and Yarmouth . . . . .	68
Boston Harbor . . . . .	64
Commonwealth Flats at East Boston . . . . .	65
Aircraft Landing Field . . . . .	65
Commonwealth Pier No. 1 . . . . .	66
Dredging and Filling . . . . .	66
Commonwealth Flats at South Boston . . . . .	64
Commonwealth Pier No. 5 . . . . .	64
Development of Land South of Summer Street . . . . .	65
Industrial Tracks . . . . .	65
Land on Northern Avenue . . . . .	65
Ramp and D Street . . . . .	65
Deeds to United States of Areas in Tide Water . . . . .	66
Expenditures for Development and Improvement in Boston Harbor 1859-1929, inclusive . . . . .	77
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor, 1893-1929, inclusive . . . . .	78
Harbor Lines . . . . .	66
Savin Hill and Dorchester Bay . . . . .	66
Town River, Quincy . . . . .	67
Wollaston Channel, Quincy . . . . .	67
Brant Rock, Marshfield . . . . .	69
Connecticut River . . . . .	69
Hadley and Northampton . . . . .	69
Northfield . . . . .	69



	PAGE
Conserving and Equalizing the Flow of Water in Rivers and Streams . . .	76
Contracts and Letter Contracts made and in force during year ending Nov. 30, 1929 . . . . .	86
Contracts and Letter Contracts completed in 1928 under which final pay- ments were made during 1929 . . . . .	90-92
Cotuit Harbor, Barnstable . . . . .	69
Cotuit Shore Protection, Barnstable . . . . .	69
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1929, excepting Boston Harbor . . . . .	79
Expenditures and Contributions for River and Harbor Work from Dec. 1, 1928, to Nov. 30, 1929 . . . . .	78
Falmouth Shore Protection . . . . .	70
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1929 . . . . .	83
Great Ponds . . . . .	74
Access to . . . . .	75
Lake Chaubunagungamaug, Webster . . . . .	75
Surveys . . . . .	74
Gun Rock-Green Hill Sea Wall, Hull . . . . .	70
Hoosic River . . . . .	
Adams, Cheshire, Clarksburg, North Adams and Williamstown . . .	70
North Adams . . . . .	70
Income, Statement of . . . . .	13
Lewis Bay, Barnstable and Yarmouth . . . . .	70
Licenses and Permits . . . . .	77
Manchester Harbor, Manchester . . . . .	70
New Bedford Harbor, New Bedford and Fairhaven . . . . .	71
New Bedford State Pier . . . . .	71
Nobscusset Harbor, Dennis . . . . .	71
Oak Bluffs Shore Protection . . . . .	72
Plymouth, Commonwealth Property . . . . .	72
Port of Boston Fund . . . . .	13
Province Lands . . . . .	75
Provincetown Shore Protection . . . . .	72
Provincetown Tercentenary Commission . . . . .	72
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor .	67
Scituate Harbor . . . . .	73
Scituate Sea Walls . . . . .	73
Seaquit River, Barnstable . . . . .	73
Town Boundaries . . . . .	76
Triangulation Stations, Re-establishment of Certain . . . . .	76
Waquoit Bay, Falmouth and Mashpee . . . . .	73
West Bay, Barnstable . . . . .	73
West Harwich Shore Protection . . . . .	73
Winthrop Shore . . . . .	74
Point Shirley Sea Wall . . . . .	74







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